SHARP SERVICE MANUAL

No. S12V570LE835E

LCD COLOUR TELEVISION

MODELS LC-70LE835E/RU LC-70LE836E/S LC-70LE838E

In the interests of user-safety (Required by safety regulations in some countries) the set should be restored to its original condition and only parts identical to those specified should be used.

CONTENTS

SAFETY PRECAUTION
IMPORTANT SERVICE SAFETY PRECAUTION i
Precautions for using lead-free solder ii
End of life disposal iii

OUTLINE
MAJOR SERVICE PARTS iv

CHAPTER 1. SPECIFICATIONS
[1] SPECIFICATIONS (LC-70LE835/836) 1-1
[2] SPECIFICATIONS (LC-70LE838) 1-2

CHAPTER 2. OPERATION MANUAL
[1] Parts Name 2-1
[2] OPERATION MANUAL 2-7

CHAPTER 3. DIMENSIONS
[1] DIMENSIONS 3-1

CHAPTER 4. REMOVING OF MAJOR PARTS
[1] REMOVING OF MAJOR PARTS 4-1
[2] The location putting on the heat measure sheet 4-7
[3] Precautions for assembly 4-8

CHAPTER 5. ADJUSTMENT
[1] ADJUSTMENT PROCEDURE 5-1

CHAPTER 6. TROUBLESHOOTING TABLE
[1] TROUBLESHOOTING TABLE 6-1
[2] LED flashing specification at the time of the error 6-18

CHAPTER 7. MAJOR IC INFORMATIONS
[1] MAJOR IC INFORMATIONS 7-1

CHAPTER 8. OVERALL WIRING/BLOCK DIAGRAM
[1] OVERALL WIRING DIAGRAM 8-1
[2] SYSTEM BLOCK DIAGRAM (LC-70LE835E/RU, 838E) 8-2
[3] SYSTEM BLOCK DIAGRAM (LC-70LE836E/S) 8-3

Parts Guide

Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

SAFETY PRECAUTION

IMPORTANT SERVICE SAFETY PRECAUTION

■ **Service work should be performed only by qualified service technicians who are thoroughly familiar with all safety checks and the servicing guidelines which follow:**

■ WARNING

1. For continued safety, no modification of any circuit should be attempted.
2. Disconnect AC power before servicing.

CAUTION:
FOR CONTINUED PROTECTION AGAINST A RISK OF FIRE REPLACE ONLY WITH SAME TYPE FUSE.

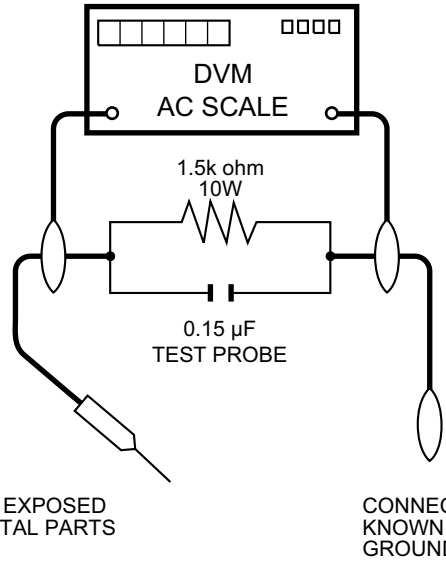
F7001 (5A/250V)

■ BEFORE RETURNING THE RECEIVER (Fire & Shock Hazard)

Before returning the receiver to the user, perform the following safety checks:

3. Inspect all lead dress to make certain that leads are not pinched, and check that hardware is not lodged between the chassis and other metal parts in the receiver.
4. Inspect all protective devices such as non-metallic control knobs, insulation materials, cabinet backs, adjustment and compartment covers or shields, isolation resistor-capacitor networks, mechanical insulators, etc.
5. To be sure that no shock hazard exists, check for leakage current in the following manner.

- Plug the AC cord directly into a 220~240 volt AC outlet.
- Using two clip leads, connect a 1.5k ohm, 10 watt resistor paralleled by a 0.15μF capacitor in series with all exposed metal cabinet parts and a known earth ground, such as electrical conduit or electrical ground connected to an earth ground.
- Use an AC voltmeter having with 5000 ohm per volt, or higher, sensitivity or measure the AC voltage drop across the resistor.
- Connect the resistor connection to all exposed metal parts having a return to the chassis (antenna, metal cabinet, screw heads, knobs and control shafts, escutcheon, etc.) and measure the AC voltage drop across the resistor.
  All checks must be repeated with the AC cord plug connection reversed. (If necessary, a nonpolarized adaptor plug must be used only for the purpose of completing these checks.)
  Any reading of 1.05 V peak (this corresponds to 0.7 mA peak AC.) or more is excessive and indicates a potential shock hazard which must be corrected before returning the monitor to the owner.



SAFETY NOTICE

Many electrical and mechanical parts in LCD color television have special safety-related characteristics.

These characteristics are often not evident from visual inspection, nor can protection afforded by them be necessarily increased by using replacement components rated for higher voltage, wattage, etc.

Replacement parts which have these special safety characteristics are identified in this manual; electrical components having such features are identified by "⚠" and shaded areas in the Replacement Parts List and Schematic Diagrams.

For continued protection, replacement parts must be identical to those used in the original circuit.

The use of a substitute replacement parts which do not have the same safety characteristics as the factory recommended replacement parts shown in this service manual, may create shock, fire or other hazards.

Precautions for using lead-free solder

■Employing lead-free solder

- “PWBs” of this model employs lead-free solder. The LF symbol indicates lead-free solder, and is attached on the PWBs and service manuals. The alphabetical character following LF shows the type of lead-free solder.

  Example:

Indicates lead-free solder of tin, silver and copper.

Indicates lead-free solder of tin, silver and copper.

■Using lead-free wire solder

- When fixing the PWB soldered with the lead-free solder, apply lead-free wire solder. Repairing with conventional lead wire solder may cause damage or accident due to cracks.

  As the melting point of lead-free solder (Sn-Ag-Cu) is higher than the lead wire solder by 40 °C, we recommend you to use a dedicated soldering bit, if you are not familiar with how to obtain lead-free wire solder or soldering bit, contact our service station or service branch in your area.

■Soldering

- As the melting point of lead-free solder (Sn-Ag-Cu) is about 220 °C which is higher than the conventional lead solder by 40 °C, and as it has poor solder wettability, you may be apt to keep the soldering bit in contact with the PWB for extended period of time. However, Since the land may be peeled off or the maximum heat-resistance temperature of parts may be exceeded, remove the bit from the PWB as soon as you confirm the steady soldering condition.

  Lead-free solder contains more tin, and the end of the soldering bit may be easily corroded. Make sure to turn on and off the power of the bit as required.

  If a different type of solder stays on the tip of the soldering bit, it is alloyed with lead-free solder. Clean the bit after every use of it.

  When the tip of the soldering bit is blackened during use, file it with steel wool or fine sandpaper.

- Be careful when replacing parts with polarity indication on the PWB silk.

Lead-free wire solder for servicing

Part No.	★	Description	Code
ZHNDAi123250E	J	ϕ0.3mm 250g (1roll)	BL
ZHNDAi126500E	J	ϕ0.6mm 500g (1roll)	BK
ZHNDAi12801KE	J	ϕ1.0mm 1kg (1roll)	BM

End of life disposal

Attention: Your product is marked with this symbol. It means that used electrical and electronic products should not be mixed with general household waste. There is a separate collection system for these products.

A. Information on Disposal for Users (private households)

1. In the European Union

Attention: If you want to dispose of this equipment, please do not use the ordinary dust bin!

Used electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used electrical and electronic equipment.
Following the implementation by member states, private households within the EU states may return their used electrical and electronic equipment to designated collection facilities free of charge*. In some countries* your local retailer may also take back your old product free of charge if you purchase a similar new one.
*) Please contact your local authority for further details.

If your used electrical or electronic equipment has batteries or accumulators, please dispose of these separately beforehand according to local requirements.

By disposing of this product correctly you will help ensure that the waste undergoes the necessary treatment, recovery and recycling and thus prevent potential negative effects on the environment and human health which could otherwise arise due to inappropriate waste handling.

2. In other Countries outside the EU

If you wish to discard this product, please contact your local authorities and ask for the correct method of disposal.

For Switzerland: Used electrical or electronic equipment can be returned free of charge to the dealer, even if you don't purchase a new product. Further collection facilities are listed on the homepage of www.swico.ch or www.sens.ch.

B. Information on Disposal for Business Users

1. In the European Union

If the product is used for business purposes and you want to discard it:

Please contact your SHARP dealer who will inform you about the take-back of the product. You might be charged for the costs arising from take-back and recycling. Small products (and small amounts) might be taken back by your local collection facilities.

For Spain: Please contact the established collection system or your local authority for take-back of your used products.

2. In other Countries outside the EU

If you wish to discard of this product, please contact your local authorities and ask for the correct method of disposal.

For EU: The crossed-out wheeled bin implies that used batteries should not be put to the general household waste! There is a separate collection system for used batteries, to allow proper treatment and recycling in accordance with legislation. Please contact your local authority for details on the collection and recycling schemes.

For Switzerland: The used battery is to be returned to the selling point.

For other non-EU countries: Please contact your local authority for correct method of disposal of the used battery.

OUTLINE

MAJOR SERVICE PARTS

■PWB Unit

Ref No.	Parts No.	Description
N	DKEYDF733FM58	MAIN Unit (LC-70LE835E/RU) (*1)
N	DKEYDF733FM59	MAIN Unit (LC-70LE836E/S) (*1)
N	DKEYDF733FM60	MAIN Unit (LC-70LE838E) (*1)
N	DUNTKF494FM02	R/C, OPC Unit
N	DUNTKF770FM51	ICON Unit
N	DUNTKF800FM52	KEY Unit
N	RUNTKA819WJQZ	3D IR TRANSMITTER Unit
N	RDENCA451WJQZ	POWER Unit
N	DUNTKF906FM55	LCD CONTROL Unit
N	RUNTKA961WJZZ	LED DRIVER Unit

NOTE: (*1) Replace MAIN PWB Unit (DKEYDF733FM**) in case of IC8401 or IC3303 failure.

■OTHER Unit

Ref No.	Parts No.	Description
N	R1LK695D3GW2AX	70" LCD Panel Module Unit (LK695D3GW2AX)

■IC For Exclusive Use Of The Service

Ref No.	Parts No.	Description	Q'ty
IC2001	RH-iXD241WJNJQ	IC R5F21368CNFP (Monitor Microcomputer)	1

■Service Jigs

Ref No.	Parts No.	Description	Q'ty
N	QCNW-L795WJQZ	Main Unit to Power Unit (PD)	1
N	QCNW-L519WJQZ	POWER Unit to LED DRIVER Unit (LA)	1
N	QCNW-L796WJQZ	Main Unit to ICON Unit (CI)	1
N	QCNW-K595WJQZ	Main Unit to Speaker (SP)	1
N	QCNW-G405WJQZ	Main Unit to LCD Control Unit (PL)	1
N	QCNW-F676WJQZ	MAIN Unit to LCD CONTROL Unit (LW)	1
N	QCNW-C222WJQZ	LCD Control Unit to LCD Panel Unit, x2	2

CHAPTER 1. SPECIFICATIONS

[1] SPECIFICATIONS (LC-70LE835/836)

Item			LCD COLOUR TV (70″/178 cm), LC-70LE835E LC-70LE835RU LC-70LE836E LC-70LE836S
LCD panel			178 cm (70″) X-Gen panel
Resolution			1,920 x 1,080 x 4 dots
Video colour system			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
TV function	TV-standard	Analogue	CCIR (B/G, I, D/K, L/L')
		Digital (835 series)	DVB-T (2K/8K OFDM), DVB-C, DVB-S/S2
		Digital (836 series)	DVB-T (2K/8K OFDM), DVB-T2 (1K/2K/4K/8K/16K/32K OFDM), DVB-C
	Receiving channel	VHF/UHF	IR A ch–E69 ch (Digital), E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
		Satellite (835 series only)	950–2150 MHz*1
	TV-tuning system		Auto Preset 999 ch (non-Nordic [DTV]), Auto Preset 9999 ch (Nordic [DTV]), Auto Preset 99 ch (ATV), Auto Label, Auto Sort, Auto Preset 9999 ch (SAT [835 series only])
	Stereo/Bilingual		A2/NICAM
Audio amplifier			10 W x 2
Speaker			(150 mm x 32 mm) x 2
Terminals	Antenna	VHF/UHF	75 Ω Din type (analogue & digital)
		Satellite (835 series only)	75 Ω F type (DVB-S/S2)
	RS-232C		D-sub 9 pin male connector
	EXT 1		SCART (AV input, Y/C input, RGB input, TV output)
	EXT 2		RCA pin (AV input/AUDIO L/R)
	EXT 3		Component (AV input/Audio L/R)
	PC		mini D-sub 15 pin
	HDMI 1 (EXT 4)		HDMI (ARC)
	HDMI 2 (EXT 5)		HDMI
	HDMI 3 (EXT 6)		HDMI
	HDMI 4 (EXT 7)		HDMI
	USB 1		USB (DC 5 V, 500 mA)
	USB 2 (HDD)		USB (DC 5 V, 1000 mA)
	USB 3 (WIRELESS LAN)		USB (DC 5 V, 500 mA)
	ETHERNET (10/100)		Network connector
	HDMI 2/PC AUDIO (L/R)		Ø 3.5 mm jack*2
	DIGITAL AUDIO OUTPUT		Optical S/PDIF digital audio output
	C. I. (Common Interface)		EN50221, R206001, CI Plus specification
	OUTPUT/Headphones		RCA pin (AUDIO L/R)/Ø 3.5 mm jack (audio output)
	SD CARD (VIDEO STORE)		SD card
OSD language			Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian
Power requirement			AC 220–240 V, 50 Hz
Power consumption (method IEC62087)			235 W (0.10 W standby*3)
Weight			40.0 kg (without stand) 43.0 kg (with stand)
Operating temperature			0 °C to + 40 °C

*1 The satellite channel's frequency may vary according to satellites and antennas.
*2 The HDMI 2 and PC terminals can both use the same audio input terminal.
*3 Standby power consumption applies when the TV is set to not receive EPG data.

- As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

[2] SPECIFICATIONS (LC-70LE838)

Item			LCD COLOUR TV (70″/178 cm), LC-70LE838E
LCD panel			178 cm (70″) X-Gen panel
Resolution			1,920 x 1,080 x 4 dots
Video colour system			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
TV function	TV-standard	Analogue	CCIR (B/G, I, D/K, L/L')
		Digital	DVB-T (2K/8K OFDM), DVB-C, DVB-S/S2
	Receiving channel	VHF/UHF	IR A ch–E69 ch (Digital), E2–E69 ch, F2–F10 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
		Satellite	950–2150 MHz*1
	TV-tuning system		Auto Preset 999 ch (non-Nordic [DTV]), Auto Preset 9999 ch (Nordic [DTV]), Auto Preset 99 ch (ATV), Auto Label, Auto Sort, Auto Preset 9999 ch (SAT)
	Stereo/Bilingual		A2/NICAM
Audio amplifier			10 W x 2
Speaker			(150 mm x 32 mm) x 2
Terminals	Antenna	VHF/UHF	75 Ω Din type (analogue & digital)
		Satellite	75 Ω F type (DVB-S/S2)
	RS-232C		D-sub 9 pin male connector
	EXT 1		SCART (AV input, Y/C input, RGB input, TV output)
	EXT 2		RCA pin (AV input/AUDIO L/R)
	EXT 3		Component (AV input/Audio L/R)
	PC		mini D-sub 15 pin
	HDMI 1 (EXT 4)		HDMI (ARC)
	HDMI 2 (EXT 5)		HDMI
	HDMI 3 (EXT 6)		HDMI
	HDMI 4 (EXT 7)		HDMI
	USB 1		USB (DC 5 V, 500 mA)
	USB 2 (HDD)		USB (DC 5 V, 1000 mA)
	USB 3 (WIRELESS LAN)		USB (DC 5 V, 500 mA)
	ETHERNET (10/100)		Network connector
	HDMI 2/PC AUDIO (L/R)		Ø 3.5 mm jack*2
	DIGITAL AUDIO OUTPUT		Optical S/PDIF digital audio output
	C. I. (Common Interface)		EN50221, R206001, CI Plus specification
	OUTPUT/Headphones		RCA pin (AUDIO L/R)/Ø 3.5 mm jack (audio output)
	SD CARD (VIDEO STORE)		SD card
OSD language			Czech, Danish, Dutch, English, Estonian, Finnish, French, German, Greek, Hungarian, Italian, Latvian, Lithuanian, Norwegian, Polish, Portuguese, Romanian, Russian, Slovak, Slovene, Spanish, Swedish, Turkish, Ukrainian
Power requirement			AC 220–240 V, 50 Hz
Power consumption (method IEC62087)			235 W (0.10 W standby*3)
Weight			40.0 kg (without stand) 43.0 kg (with stand)
Operating temperature			0 °C to + 40 °C

*1 The satellite channel's frequency may vary according to satellites and antennas.
*2 The HDMI 2 and PC terminals can both use the same audio input terminal.
*3 Standby power consumption applies when the TV is set to not receive EPG data.

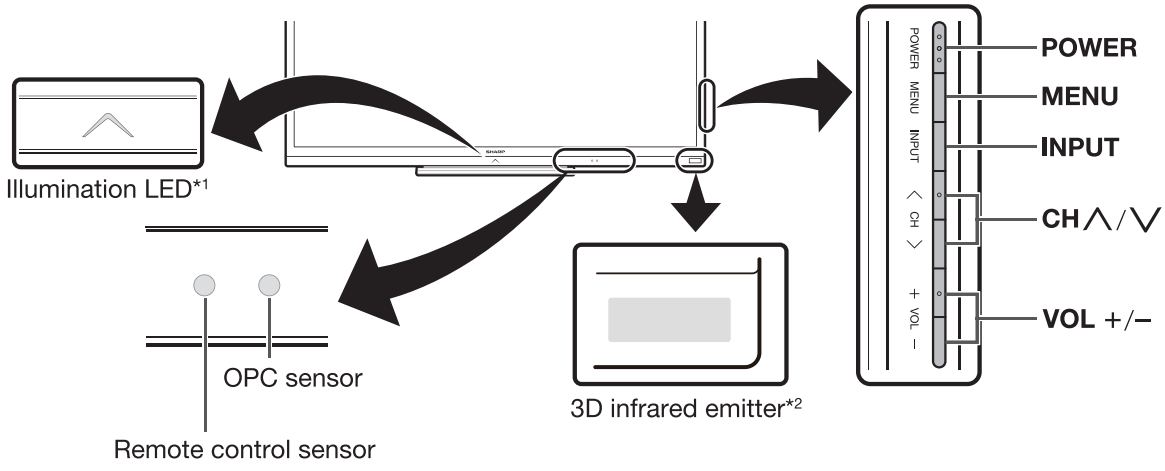
- As a part of our policy of continuous improvement, SHARP reserves the right to make design and specification changes for product improvement without prior notice. The performance specification figures indicated are nominal values of production units. There may be some deviations from these values in individual units.

CHAPTER 2. OPERATION MANUAL

[1] Parts Name

Part names and functions

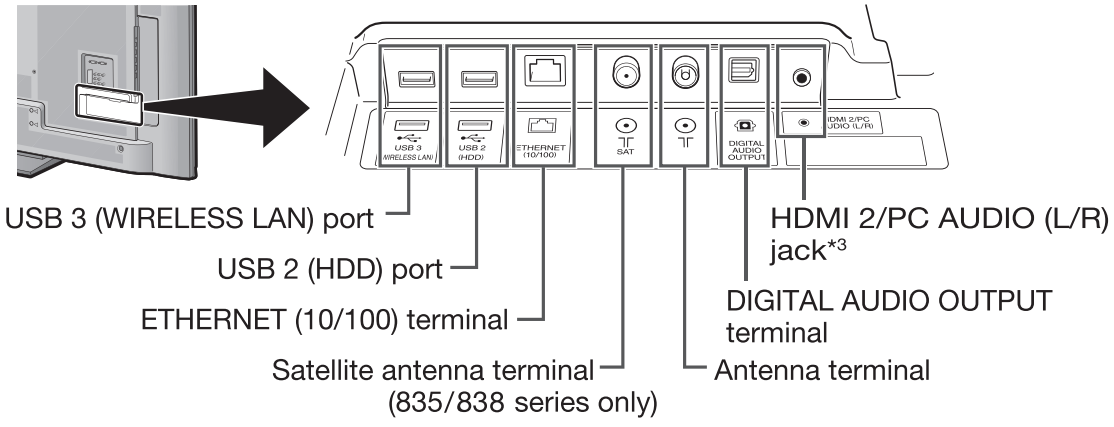
TV (front/side view)



*1 3D mode: Blue illumination
2D mode: White illumination

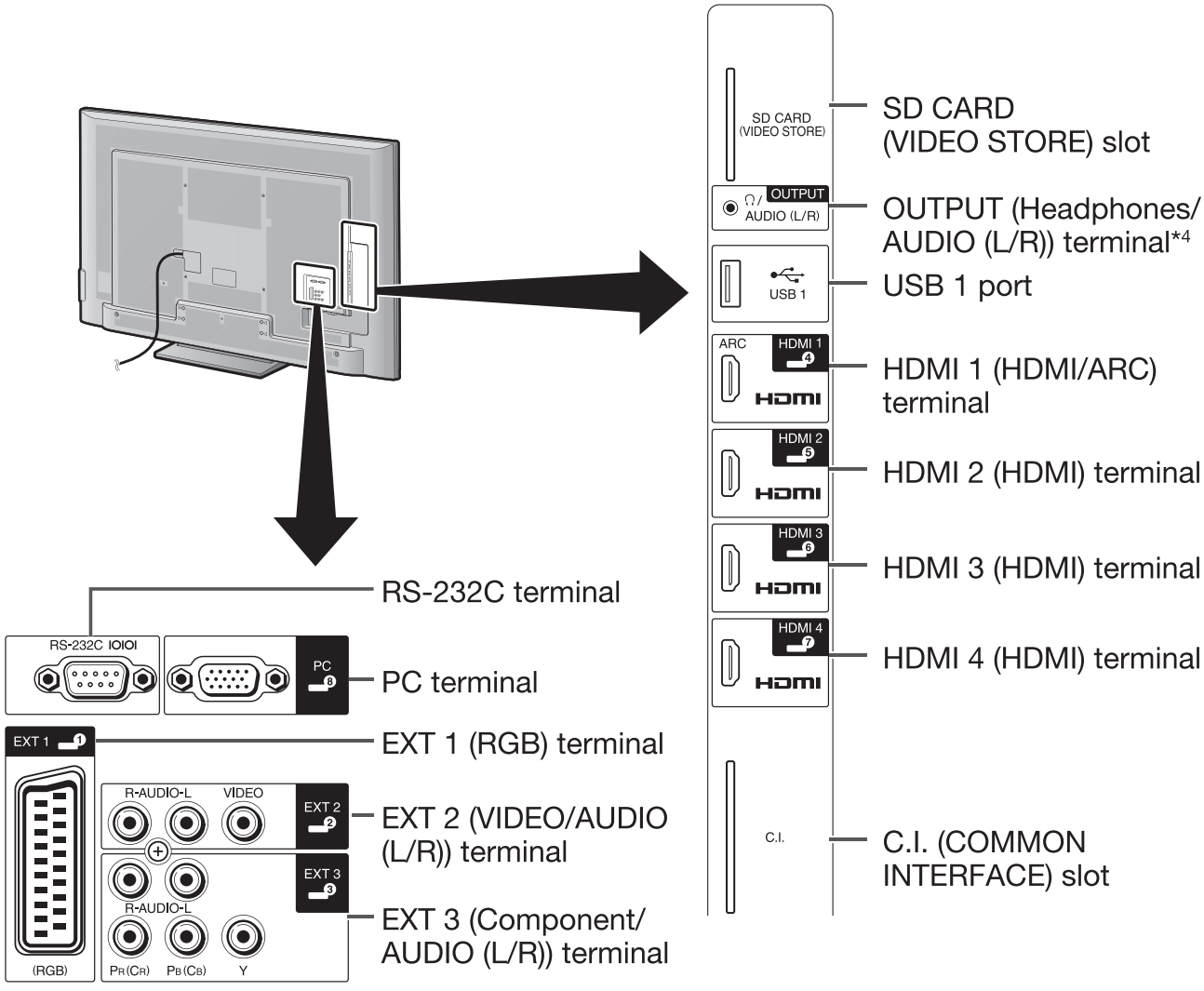
*2 This panel emits infrared signal towards the 3D glasses you wear when viewing 3D images. Do not place anything between the 3D infrared emitter on the TV and the infrared receiver on the 3D glasses.

TV (rear view)


USB 3 (WIRELESS LAN) port
USB 2 (HDD) port
ETHERNET (10/100) terminal
Satellite antenna terminal (835/838 series only)
Antenna terminal
DIGITAL AUDIO OUTPUT terminal
HDMI 2/PC AUDIO (L/R) jack*3

*3 The HDMI 2 and PC terminals can both use the same audio input terminal (HDMI 2/PC AUDIO (L/R)). However, the proper item must be selected in the “Audio select” menu.

TV (rear view) — continued



*4 When the headphone is connected to the OUTPUT terminal, the audio can be output from the speakers.

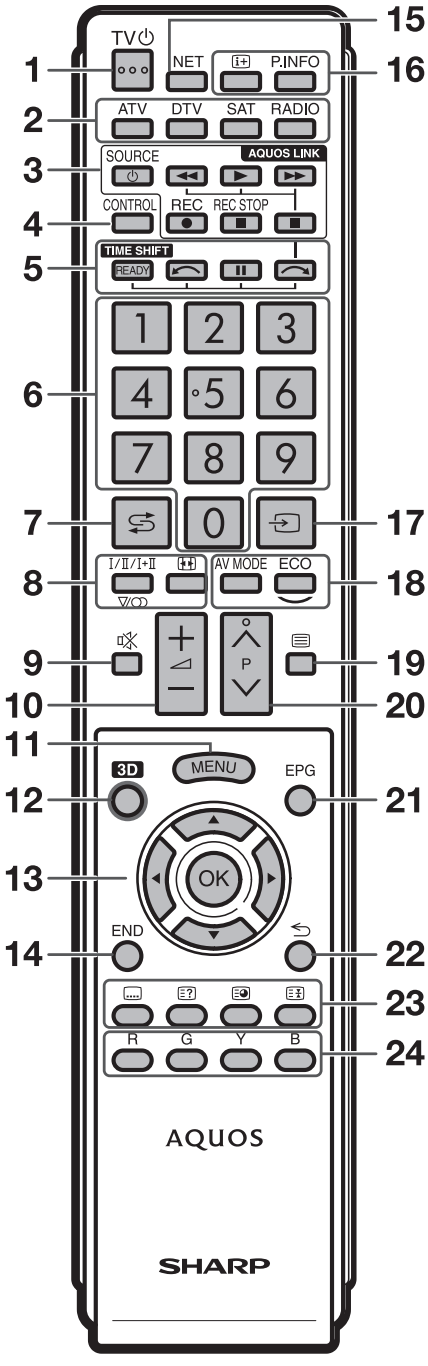
WARNING

- Excessive sound pressure from earphones and headphones can cause hearing loss.
- Do not set the volume at a high level. Hearing experts advise against extended listening at high volume levels.

Important information:

Satellite services are only available for the 835 /838 model series.

Remote control unit



1 **TV (Standby/On)**

2 **ATV**
Access conventional analogue TV mode.

DTV
Access digital TV mode.

SAT
Access satellite mode.

RADIO
DTV/SAT: Switch between radio and data mode.
- When only data broadcasting (no radio broadcasting) is transmitted by DVB, the radio broadcasting will be skipped.

3 **AQUOS LINK buttons**

4 **CONTROL**
Display a panel to operate some functions on the screen.
NET: “NET MENU” screen on/off.

5 **TIME SHIFT (READY/ / /)**

Temporarily record a programme you are watching.

6 **Numeric buttons 0–9**
Set the channel. Enter desired numbers.
Set the page in teletext mode.
- When the five Nordic countries (Sweden, Norway, Finland, Denmark or Iceland) are selected in the country setting from initial auto installation (Page 14), DTV services are four digits. When another country is selected, DTV services are three digits.

7 **(Flashback)**
Return to the previously selected channel or external input.

8 **(Sound mode)**
Select a sound multiplex mode.

(Wide mode)
Select a wide mode.

9 **(Mute)**
TV sound on/off.

10 +/– **(Volume)**
Increase/decrease TV volume.

11 **MENU**
“Menu” screen on/off.

12 **3D**
Select between 3D and 2D image viewing.

13 ▲/▼/◀/▶ **(Cursor)**
Select a desired item.

OK
Execute a command.
ATV/DTV/SAT: Display “CH list” when no other “Menu” screen is running.

14 **END**
ATV/DTV/SAT: Exit the “Menu” screen.
NET: Return to the start page.

15 **NET**
Access Net TV.

16 **(Display information)**
Display the station information (channel number, signal, etc.) on the screen.

P. INFO
Display programme information transmitted through digital video broadcasting (DTV/SAT only).

17 **(INPUT)**
Select an input source.

18 **AV MODE**
Select audio/video settings.

ECO(Standard/Advanced/Off)
Select “Energy save” setting.

19 **(Teletext)**
ATV: Display analogue teletext.
DTV/SAT: Select MHEG-5 or teletext for DTV/SAT.

20 P∧/∨
ATV/DTV/SAT: Select the TV channel.
NET: Scrolls pages up/down.

21 **EPG**
DTV/SAT: Display the EPG screen.

22 **(Return)**
ATV/DTV/SAT: Return to the previous “Menu” screen.
NET: Return to the previous page (This may not function for some services).

23 **Buttons for useful operations**

(Subtitle)
Switch subtitle languages on/off.

(Reveal hidden teletext)

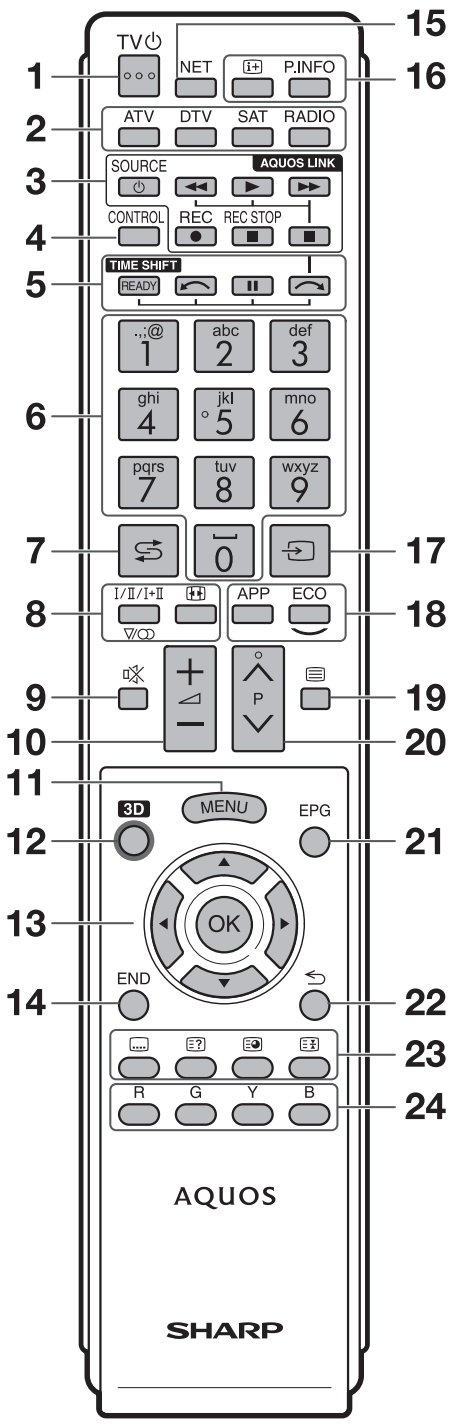
(Subpage)

(Freeze/Hold)
Freeze a moving image on the screen.
Teletext: Stop updating teletext pages automatically or release the hold mode.

24 **R/G/Y/B (Colour) buttons**
The coloured buttons are correspondingly used to select the coloured items on the screen (e.g., EPG, MHEG-5, teletext).

Important information:
Satellite services are only available for the 835 model series.

Remote control unit



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2 **ATV**
Access conventional analogue TV mode.

DTV
Access digital TV mode.

SAT
Access satellite mode.

RADIO
DTV/SAT: Switch between radio and data mode.
- When only data broadcasting (no radio broadcasting) is transmitted by DVB, the radio broadcasting will be skipped.

3 **AQUOS LINK buttons**

4 **CONTROL**
Display a panel to operate some functions on the screen.
NET: “NET MENU” screen on/off.

5 **TIME SHIFT (READY/ / /)**

Temporarily record a programme you are watching.

6 **Numeric buttons 0–9**
Set the channel. Enter desired numbers.
Set the page in teletext mode.
Inputting letters with the numeric buttons is only available with MHP services (Italy only).
- When the five Nordic countries (Sweden, Norway, Finland, Denmark or Iceland) are selected in the country setting from initial auto installation, DTV services are four digits.
  When another country is selected, DTV services are three digits.

7 **(Flashback)**
Return to the previously selected channel or external input.

8 **(Sound mode)**
Select a sound multiplex mode.

(Wide mode)
Select a wide mode.

9 **(Mute)**
TV sound on/off.

10 +/− **(Volume)**
Increase/decrease TV volume.

11 **MENU**
“Menu” screen on/off.

12 **3D**
Select between 3D and 2D image viewing.

13 ▲/▼/◀/▶ **(Cursor)**
Select a desired item.

OK
Execute a command.
ATV/DTV/SAT: Display “CH list” when no other “Menu” screen is running.
- “CH list” may not be displayed even by pressing **OK** when executing the MHP application. If so, you can display “CH list” from “Menu” > “CH list”.

14 **END**
ATV/DTV/SAT: Exit the “Menu” screen.
NET: Return to the start page.

15 **NET**
Access Net TV.

16 **(Display information)**
Display the station information (channel number, signal, etc.) on the screen.

P. INFO
Display programme information transmitted through digital video broadcasting (DTV/SAT only).

17 **(INPUT)**
Select an input source.

18 **APP**
Display the MHP application list (Italy only).

ECO(Standard/Advanced/Off)
Select “Energy save” setting.

19 **(Teletext)**
ATV: Display analogue teletext.
DTV/SAT: Select teletext for DTV/SAT.

20 **P**∧/∨
ATV/DTV/SAT: Select the TV channel.
NET: Scrolls pages up/down.

21 **EPG**
DTV/SAT: Display the EPG screen.

22 **(Return)**
ATV/DTV/SAT: Return to the previous “Menu” screen.
NET: Return to the previous page (This may not function for some services).

23 **Buttons for useful operations**

(Subtitle)
Switch subtitle languages on/off.

(Reveal hidden teletext)

(Subpage)

(Freeze/Hold)
Freeze a moving image on the screen.
Teletext: Stop updating teletext pages automatically or release the hold mode.

24 **R/G/Y/B (Colour) buttons**
The coloured buttons are correspondingly used to select the coloured items on the screen (e.g., EPG, MHP, teletext).

Preparation

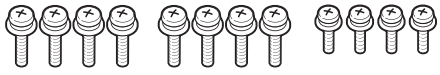
Attaching the stand unit

- Before attaching (or detaching) the stand, unplug the AC cord.
- Before performing work, spread cushioning over the surface on which you will be laying the TV. This will prevent it from being damaged.

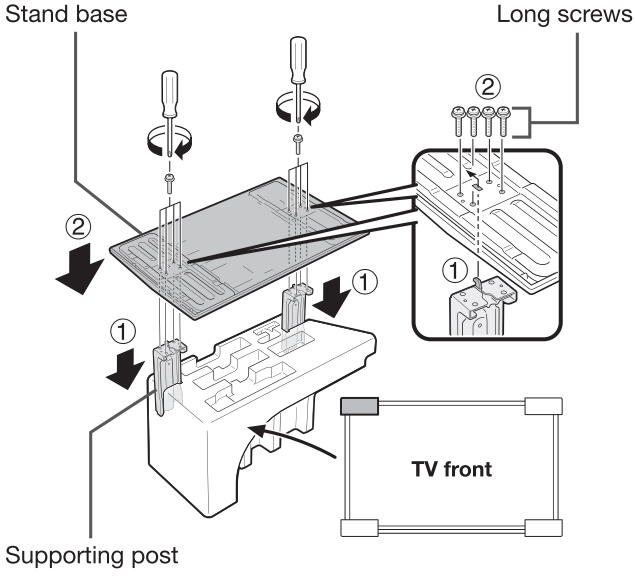
CAUTION

- **Attach the stand in the correct direction.**
- **Be sure to follow the instructions. Incorrect installation of the stand may result in the TV falling over.**

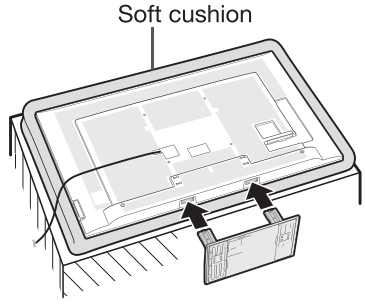
1 Confirm that there are twelve screws (eight long screws and four short screws) supplied with the stand unit.



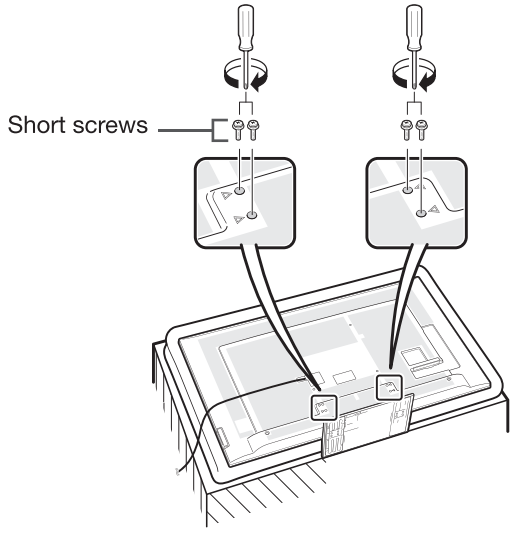
2 ① Set the supporting post for the stand unit onto the polystyrene foam.
② Attach the stand base to the supporting post.
③ Insert and tighten the eight screws into the eight holes on the bottom of the stand base.
- Hold the stand unit securely with one hand, and then tighten the screws.



3 Insert the stand into the openings on the bottom of the TV (hold the stand so it will not drop from the edge of the base area).
- Make sure that the stand is firmly inserted into the TV. Improper installation may result in tilting of the TV set.

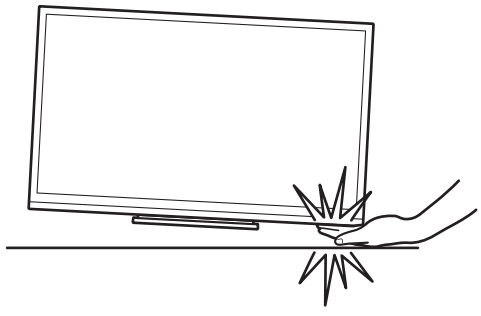


4 Insert and tighten the four screws into the four holes on the rear of the TV.



NOTE

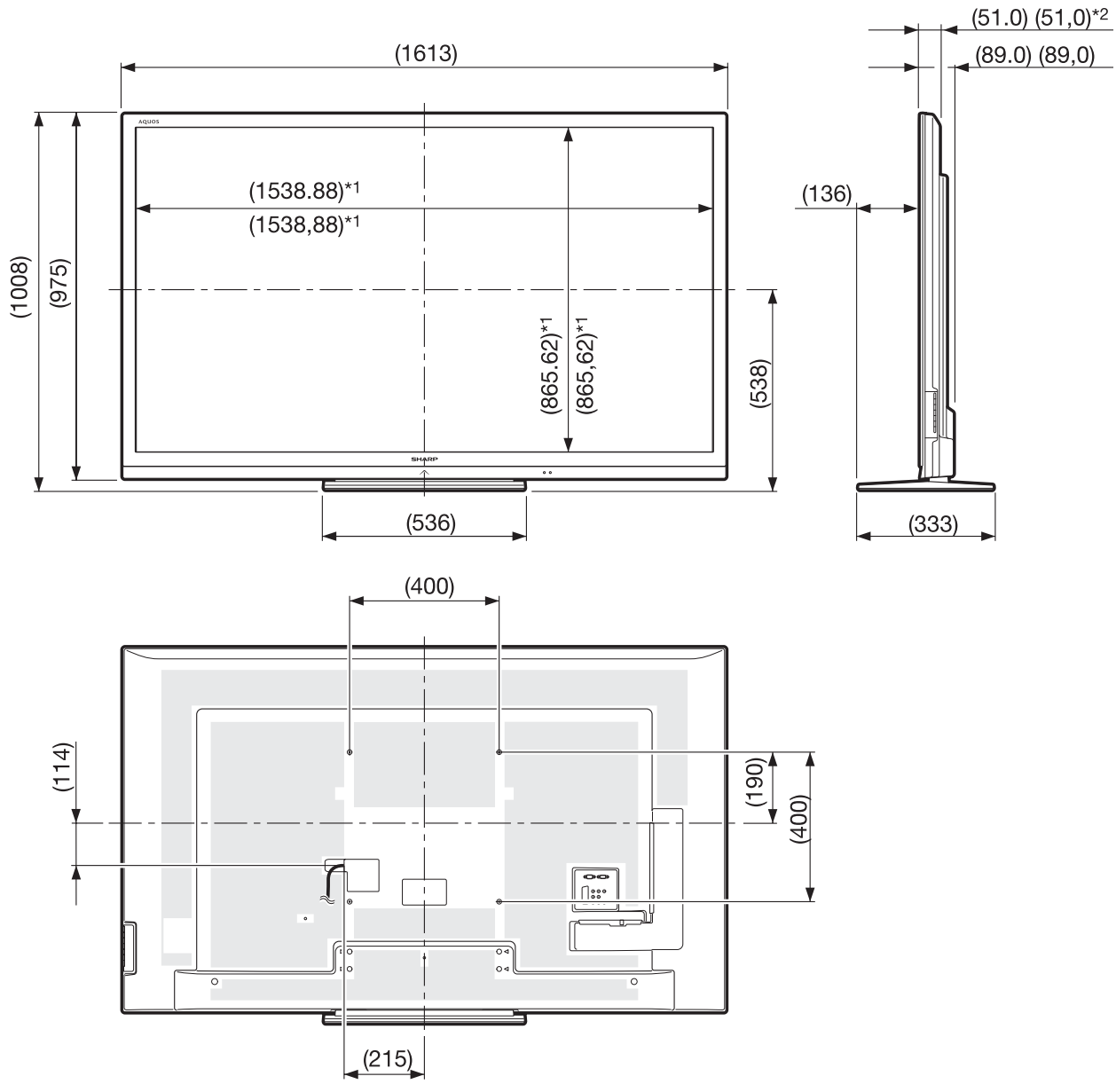
- To detach the stand unit, perform the steps in reverse order.
- A screwdriver is not supplied with this product.
- In the installation procedure, be careful not to catch your fingers between the TV set and the floor.



CHAPTER 3. DIMENSIONS

[1] DIMENSIONS

Unit: mm



*1 Active area
*2 Thinnest part

NOTE

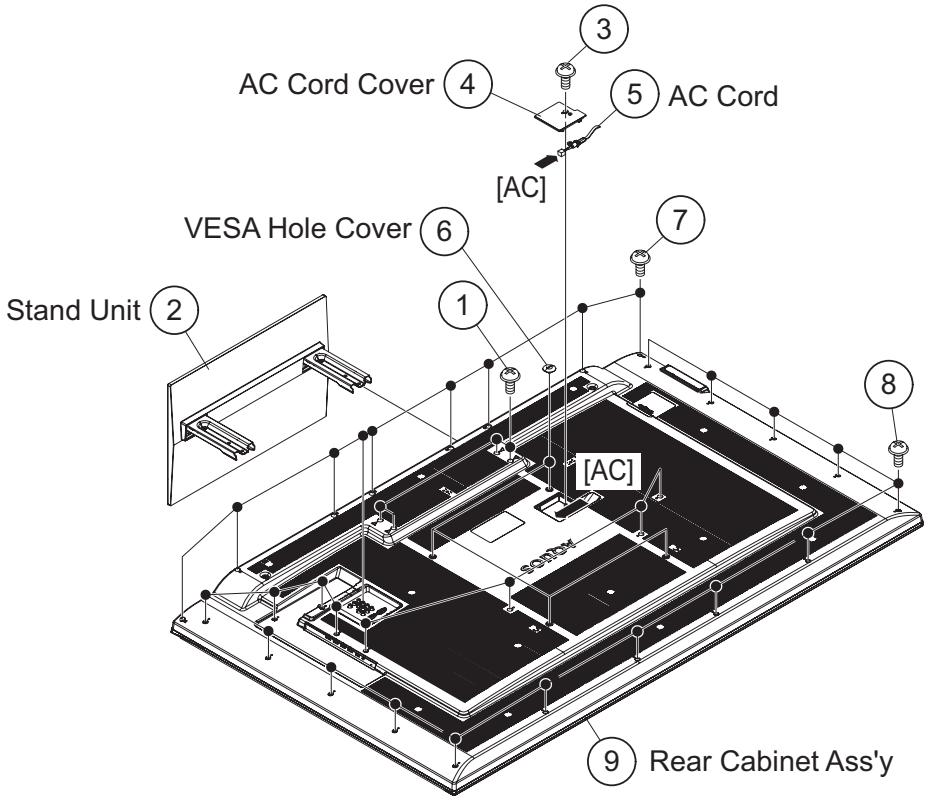
- Dimensions do not include protrusions such as screws and some parts.

CHAPTER 4. REMOVING OF MAJOR PARTS

[1] REMOVING OF MAJOR PARTS

1. Removing of Stand Unit and Rear Cabinet Ass'y.

1. Remove the 4 lock screws ① and detach the Stand Unit ②.
2. Remove the 1 lock screw ③ and detach the AC Cord Cover ④.
3. Disconnect AC wire and detach the AC Cord ⑤.
4. Remove the 4 VESA Hole Covers ⑥, 9 lock screws ⑦ and 21 lock screws ⑧ and detach the Rear Cabinet Ass'y ⑨.

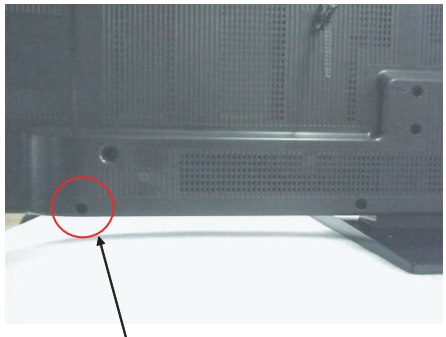


[Precautions when mounting and removing the rear cabinet]

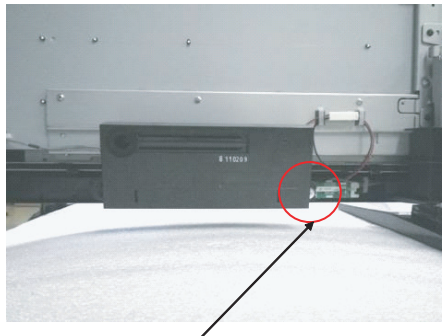
Basically, there is no problem as in LC-60LE632U. However, the screws on both sides are not tightened together with the Rear Cabinet Ass'y.

The inside is fixed by the module and Speaker.

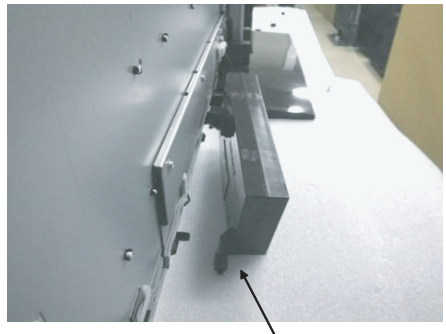
Therefore, it does not come away completely, but only one side can come off.



Tighten together with the Rear Cabinet Ass'y.

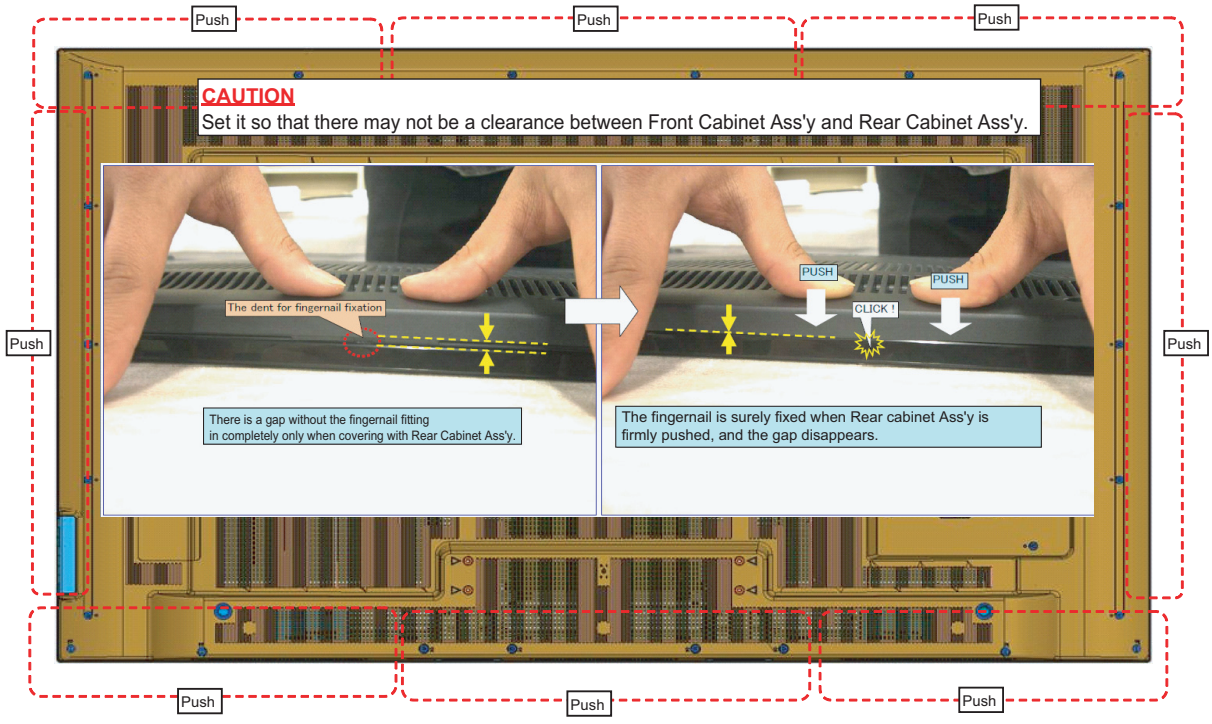


Fix with the 70" LCD Panel Module Unit.

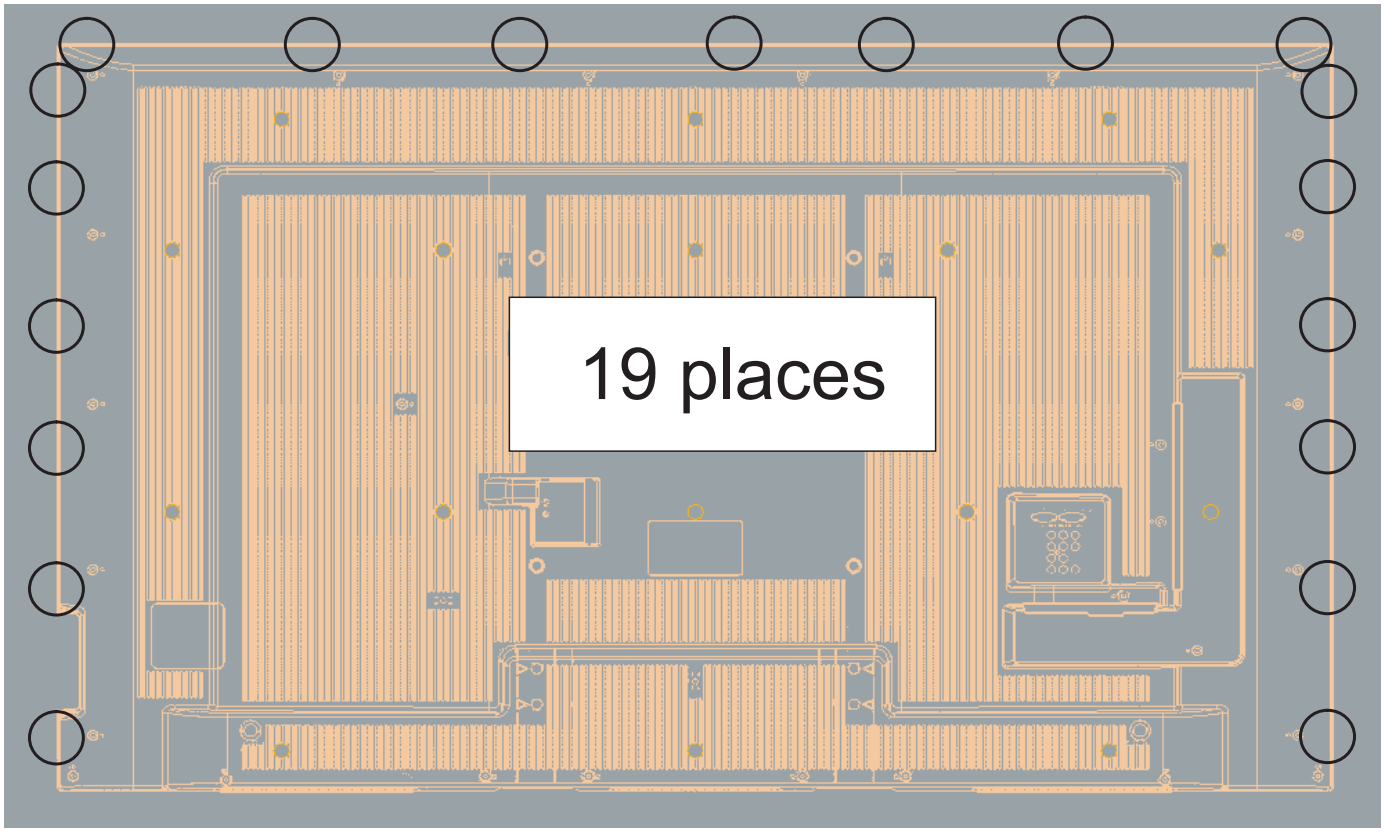


Only one side (outer) can come off.

[Precautions for assembly]

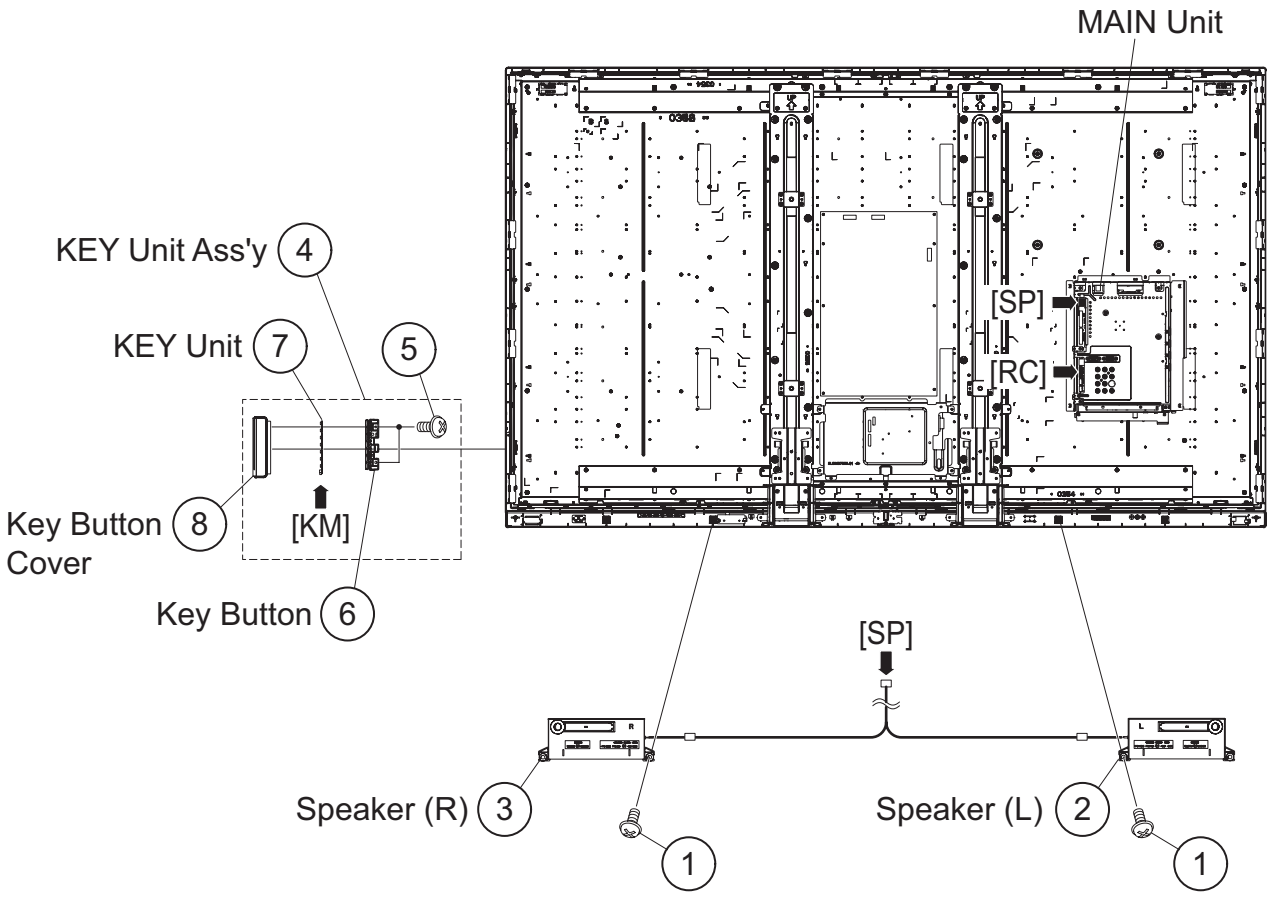

Push
Push
Push
CAUTION
Set it so that there may not be a clearance between Front Cabinet Ass'y and Rear Cabinet Ass'y.
The dent for fingernail fixation
There is a gap without the fingernail fitting in completely only when covering with Rear Cabinet Ass'y.
PUSH
PUSH
CLICK !
The fingernail is surely fixed when Rear cabinet Ass'y is firmly pushed, and the gap disappears.
Push
Push
Push
Push
Push

(Front Cabinet Ass'y/Rear Cabinet Ass'y fingernail fixation place)



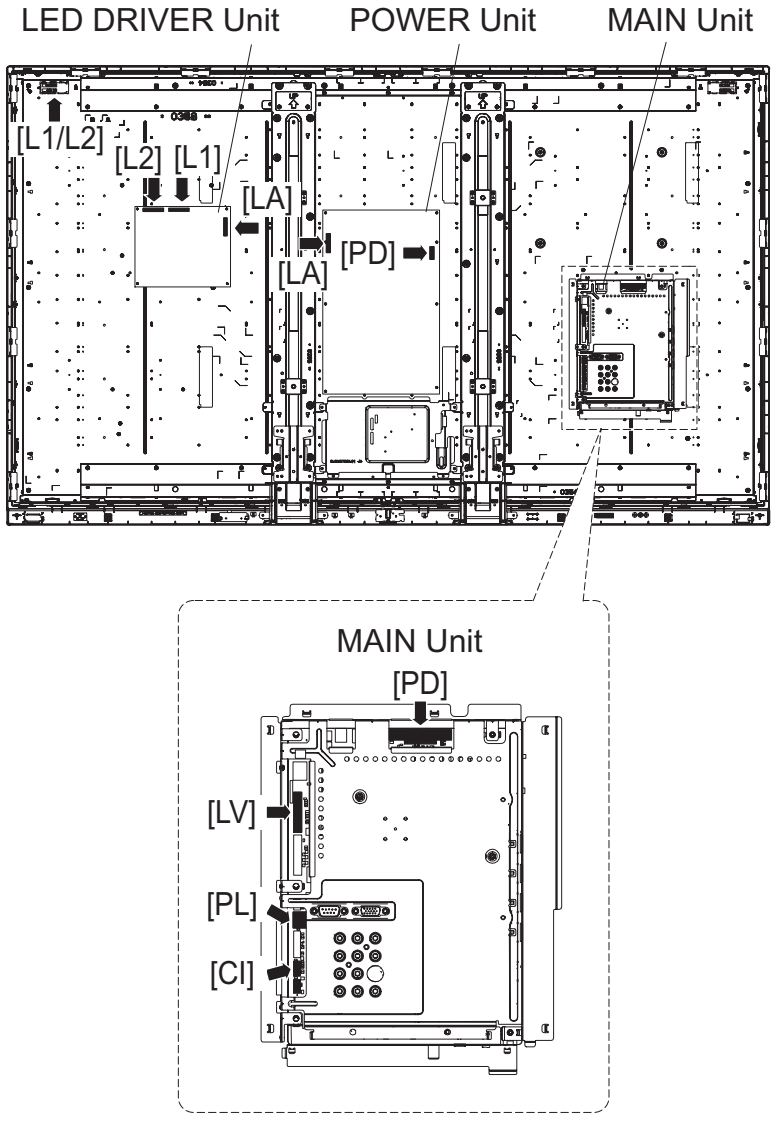
2. Removing of Speaker (L/R) and KEY Unit.

1. Disconnect the SP wire.
2. Remove the 2 lock screws ① and detach the Speaker (L) ②, Speaker (R) ③.
3. Disconnect the RC wire.
4. Detach the KEY Unit Ass'y ④.
5. Disconnect the KM wire.
6. Remove the 2 lock screws ⑤ and detach the Key Button ⑥ from Key Button Cover ⑧.
7. Detach the KEY Unit ⑦ from Key Button ⑥.



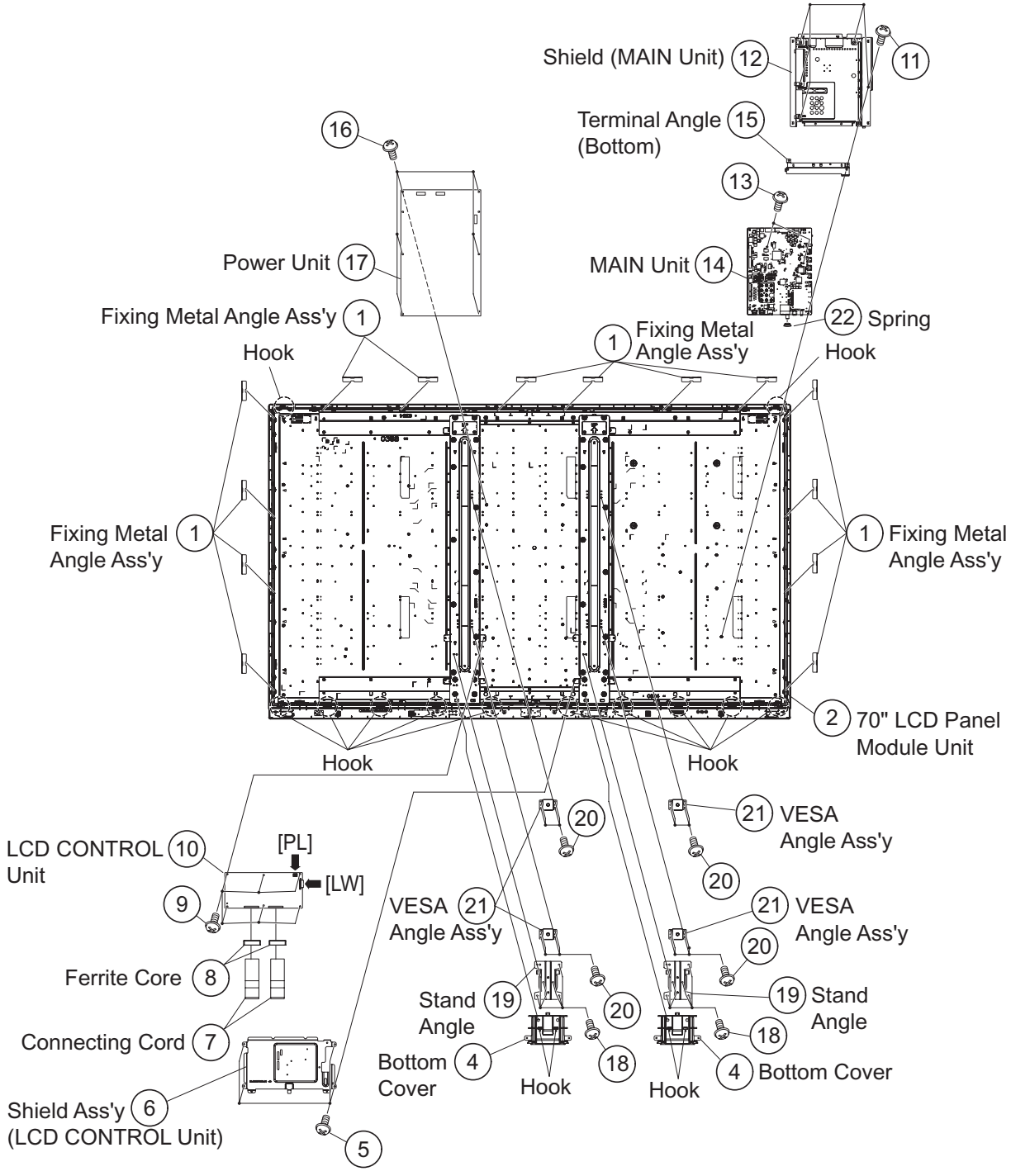
3. Removing of Connectors

1. Disconnect the following connectors from the MAIN Unit. (PD, LV, PL, CI)
2. Disconnect the following connectors from the POWER Unit.(PD, LA)
3. Disconnect the following connectors from the LED DRIVER Unit. (L1, L2, LA)



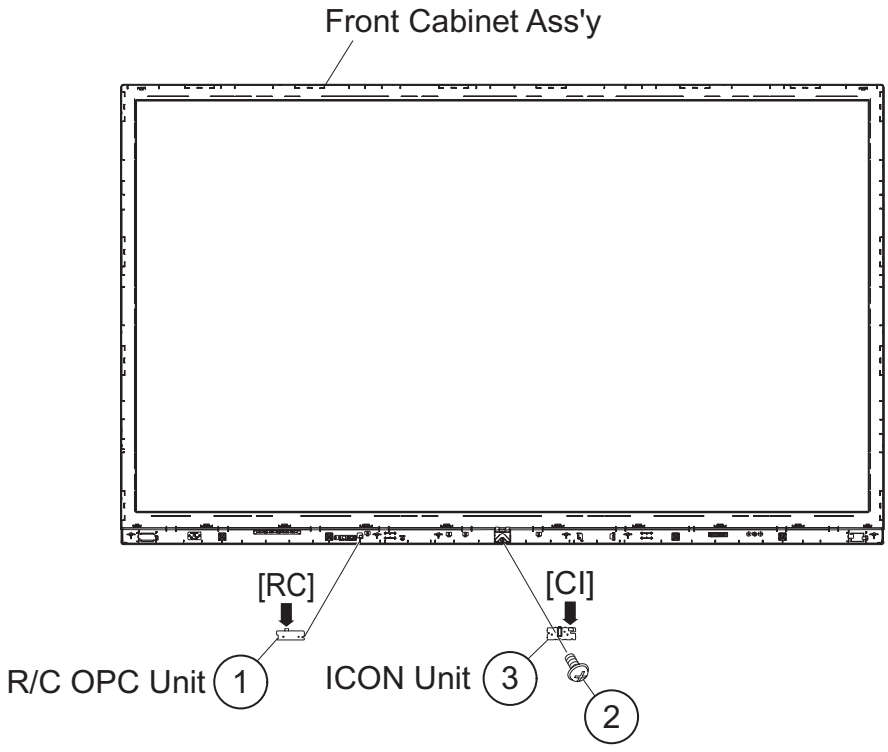
4. Removing of 70” LCD Panel Module Unit, LCD CONTROL Unit, MAIN Unit, POWER Unit.

1. Detach the 14 Fixing Metal Angle Ass’ys ①.
2. Remove the 12 Hooks and detach the 70” LCD Panel Module Unit ②.
3. Remove the 4 Hooks and detach the 2 Bottom Covers ④.
4. Remove the 4 lock screws ⑤ and detach the Shield Ass’y (LCD CONTROL Unit) ⑥.
5. Disconnect the LW and PL wire.
6. Remove the 2 Connecting Cords ⑦, 2 Ferrite Cores ⑧, 6 lock screws ⑨ and detach the LCD CONTROL Unit ⑩.
7. Remove the 5 lock screws ⑪ and detach the Shield (MAIN Unit) ⑫.
8. Remove the 2 lock screws ⑬ and detach the MAIN Unit ⑭ and Terminal Angle (Bottom) ⑮ and Spring ㉒.
9. Remove the 6 lock screws ⑯ and detach the POWER Unit ⑰.
10. Remove the 12 lock screws ⑱ and detach the 2 Stand Angles ⑲.
11. Remove the 16 lock screws ⑳ and detach the 4 VESA Angle Ass’ys ㉑.



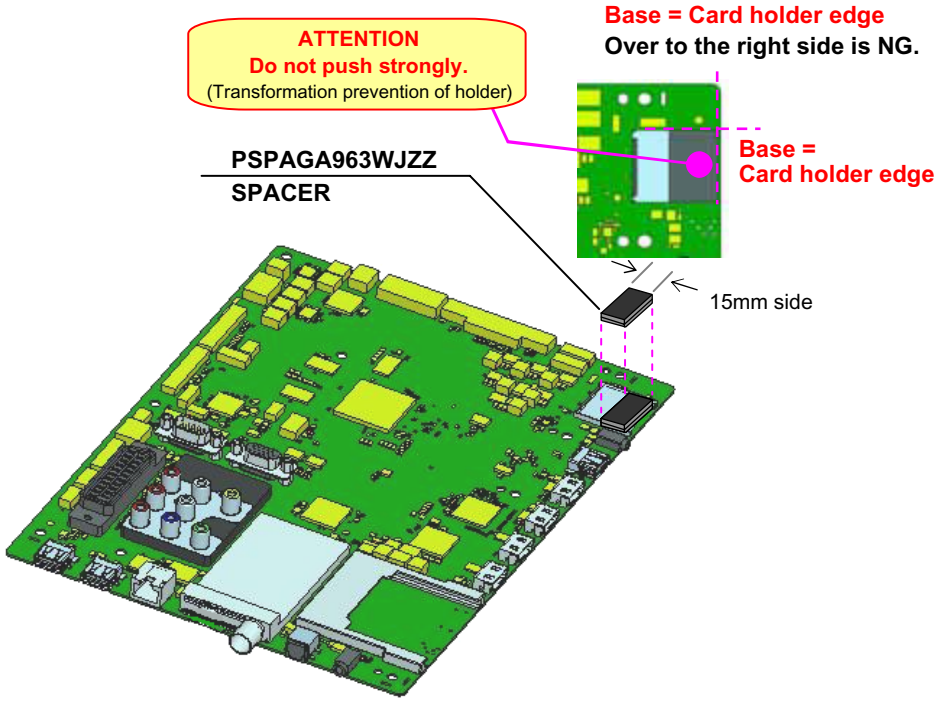
5. Removing of R/C OPC Unit, ICON Unit, WiFi Unit.

1. Detach the R/C OPC Unit ①.
2. Disconnect the RC wire.
3. Remove the 1 lock screw ② and detach the ICON Unit ③.
4. Disconnect the CI wire.

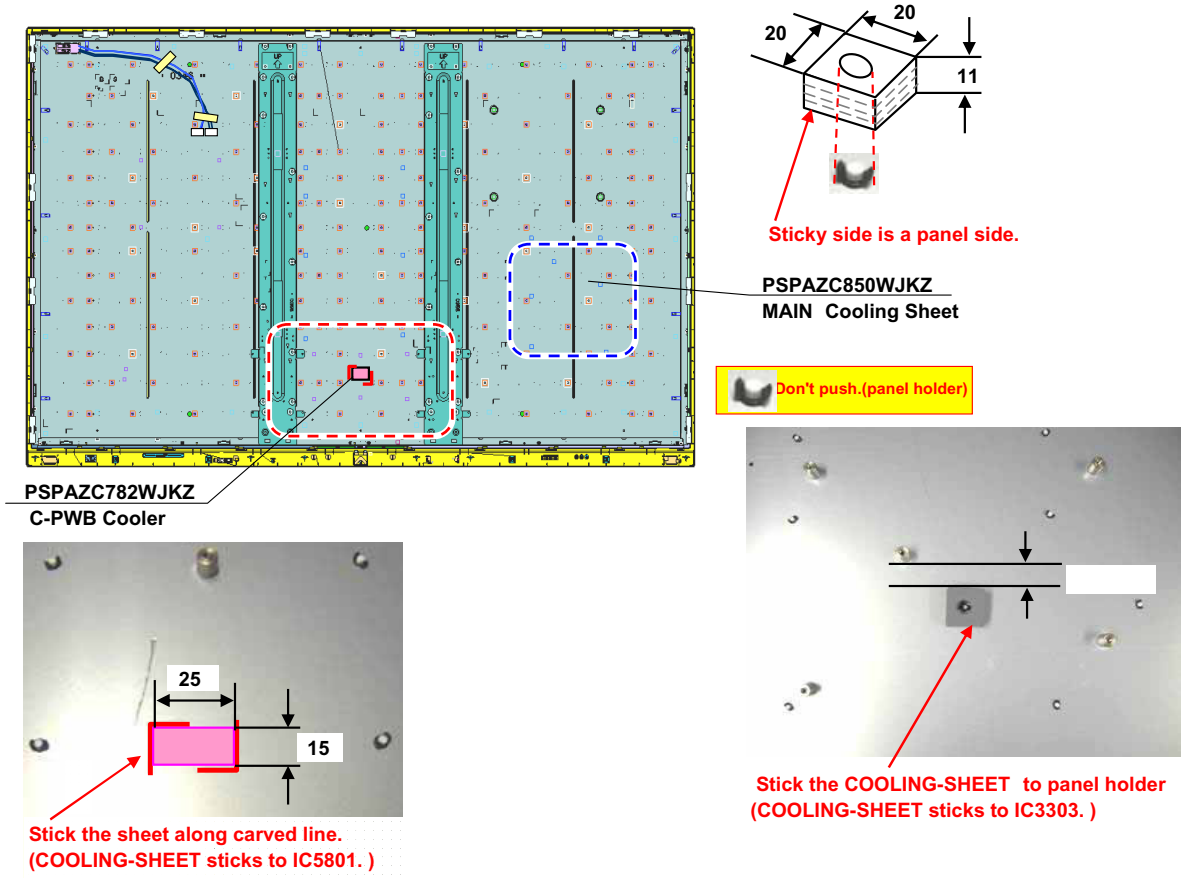


[2] The location putting on the heat measure sheet

1. MAIN PWB Unit



2. BACK LIGHT CHASSIS



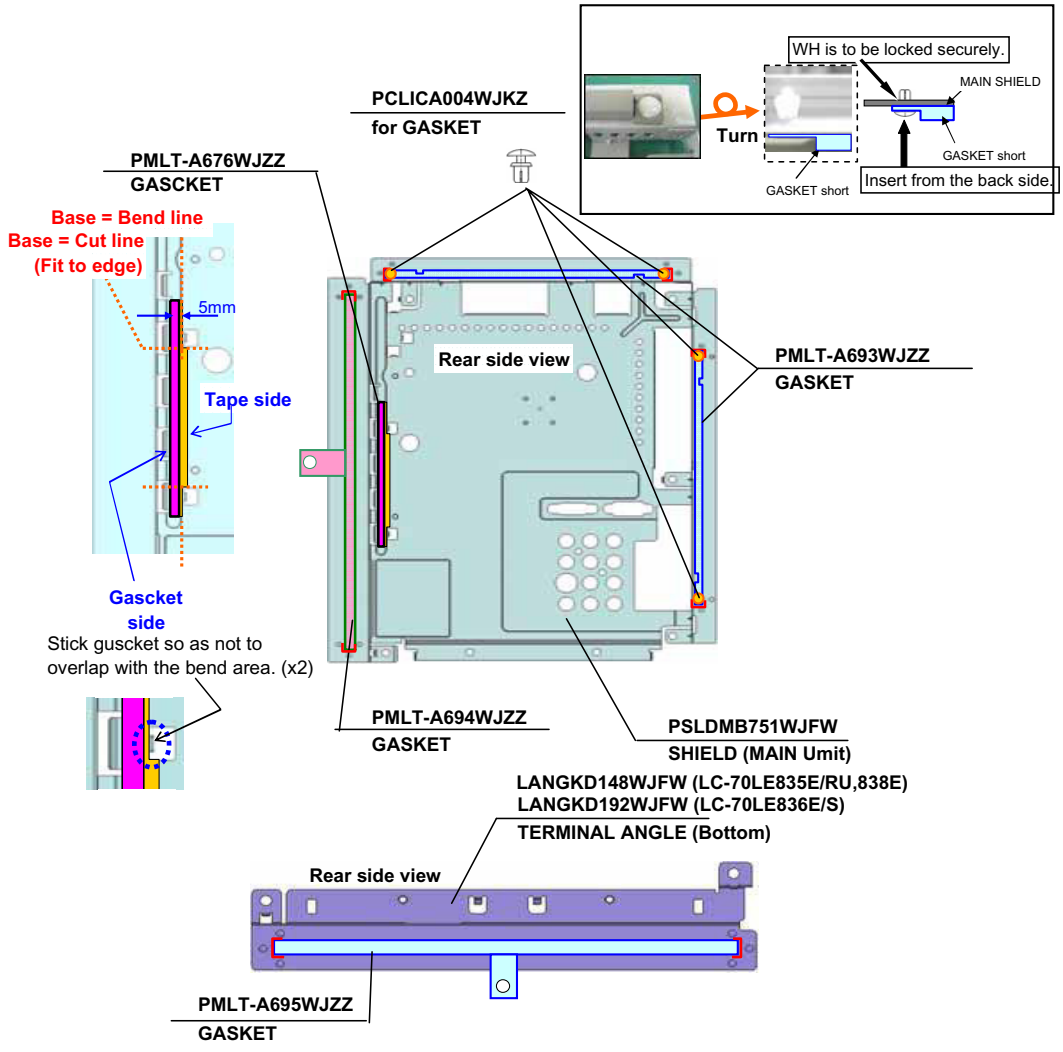
[3] Precautions for assembly

1. Points to be checked and precautions when servicing the unit

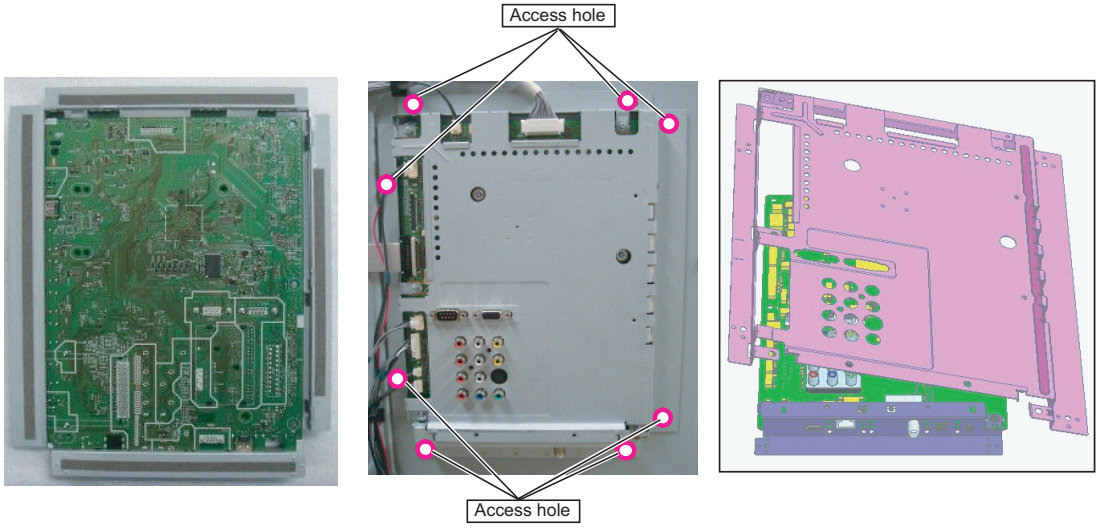
Mount the main PWB Ass'y on the backlight chassis and check that the EMI-prevention parts are not peeled and twisted from the access holes. (The EMI-prevention parts, conductive nonwoven fabric gaskets, must be seen from the access holes.)

[Countermeasure]

Attach the conductive nonwoven fabric gaskets on the shielded case on the main PWB.

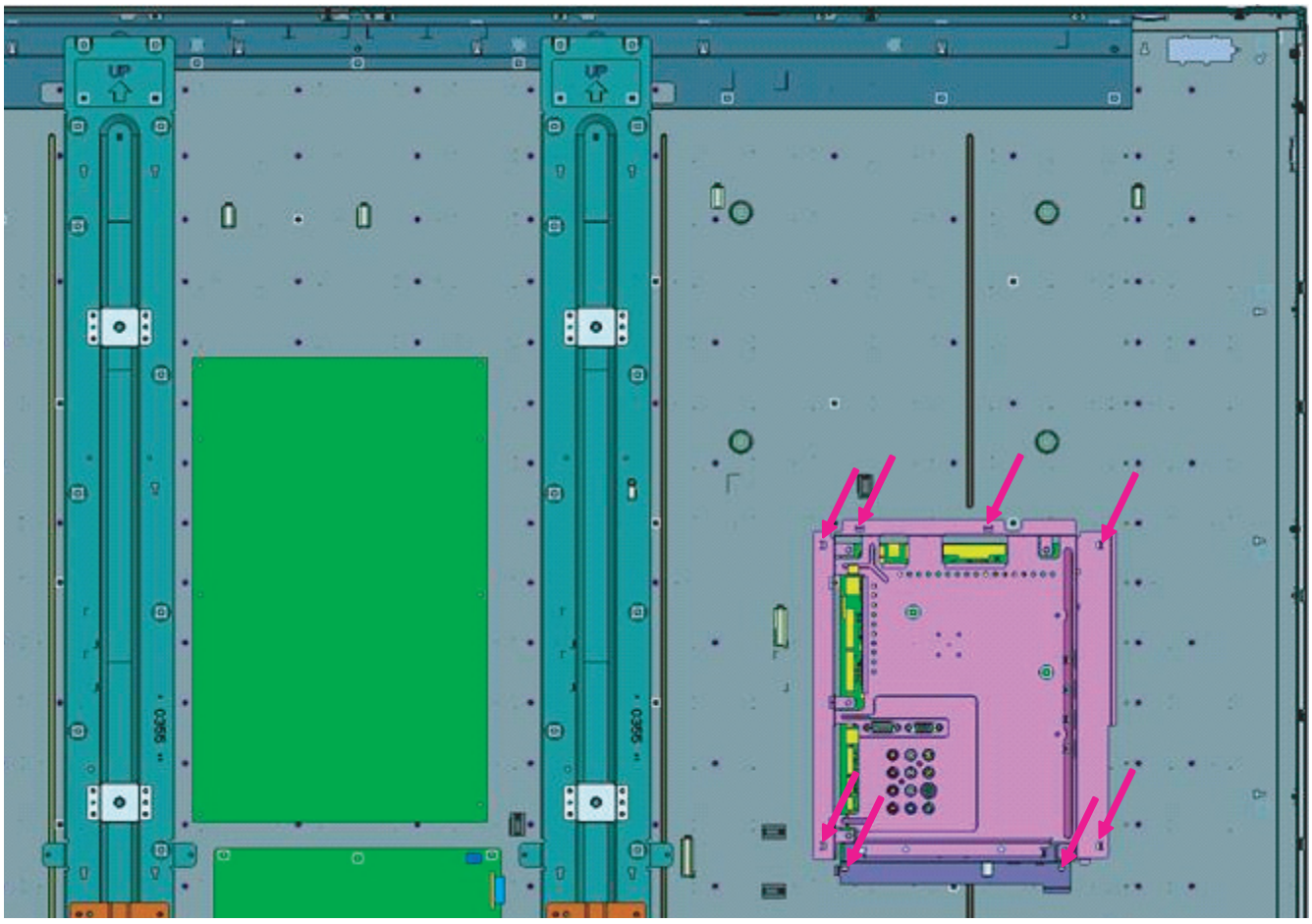


State where the main PWB and shielded case are assembled



The following is a drawing mounting the main PWB Ass'y on the backlight chassis. (The parts indicated by -> are the access holes for confirmation.)

(Main PWB Ass'y => State where the shielded case and RF terminal angle are mounted on the main PWB)



CHAPTER 5. ADJUSTMENT

[1] ADJUSTMENT PROCEDURE

1. Adjustment method after PWB and/or IC replacement due to repair

The unit is set to the optimum at the time of shipment from the factory.

If any value should become improper or any adjustment is necessary due to the part replacement, make an adjustment according to the following procedure.

1. Procure the following units in order to replace the main unit.

   MAIN UNIT: DKEYDF733FM58 (LC-70LE835E,RU)

   MAIN UNIT: DKEYDF733FM59 (LC-70LE836E,S)

   MAIN UNIT: DKEYDF733FM60 (LC-70LE838E)

NOTE: [Caution when replacing IC (IC2001) in the main unit]

The above IC are Monitor microcomputer.

Before replacing the relevant part, procure the following parts in which the data have been rewritten.

IC2001	RH-iXD241WJNJQ	Monitor microcomputer

NOTE: [Caution when replacing ICs (IC8401, IC3303) in the main unit]

When replacing either IC8401 or IC3303, exchange MAIN units for DKEYDF733FM58 (LC-70LE835E,RU), DKEYDF733FM59 (LC-70LE836E,S) DKEYDF733FM60 (LC-70LE838E) .

Each part should not be individually exchanged.

NOTE: HDMI ROM Writing

After replacing IC1504, execute “HDMI EDID WRITE” on the page 5/21.

Please execute it after checking MODEL NAME & INCH SIZE. are correct.

If MODEL NAME & INCH SIZE. are not correct, set them previously. (Refer to 2.)

The ROM data based on information of MODEL NAME & INCH SIZE.

1) Enter the process adjustment mode in TV.
2) Use the cursor keys (▲ / ▼) and CH keys (﹀ / ﹀) of R/C to select the item [HDMI EDID WRITE] on the page 5/21.
3) It is completed with OK displayed.

2. After replacing the LCD panel or LCD control/MAIN UNIT, check MODEL NAME in the following procedure.
   1) Enter the process adjustment mode in TV.
   2) Use the cursor keys (▲ / ▼) and CH keys (﹀ / ﹀) of R/C to select the item [MODEL NAME] on the page 21/21.
   3) Verify that the Model name is displayed.
   4) If the Model name doesn’t match, select the values of the Model name with the VOL keys (+/-).
   5) After selection in Step 4), press the OK key, and it is completed with OK displayed.
   6) Use the cursor keys (▲ / ▼) and CH keys (﹀ / ﹀) of R/C to select the item [PANEL_SIZE] on the page 21/21.
   7) Verify that the panel size is displayed.
   8) If the size doesn’t match, select the values of the panel size with the VOL keys (+/-).
   9) After selection in Step 8), press the OK key, and it is completed with OK displayed.
   10) After setting [MODEL NAME] [PANEL_SIZE], unplug the AC power cord and plug it back in.
3. After replacing the LCD panel or LCD control PWB, adjust the VCOM in the following procedure.
   1) Enter the process adjustment mode.
   2) Use the cursor keys (▲ / ▼) and CH keys (﹀ / ﹀) of R/C to select the item [VCOM ADJ] on the page 10/21.
   3) Press the OK key to verify that the adjustment pattern is displayed.
   4) Use VOL keys (+/-) of R/C to adjust the flicker in the center of the screen to minimum.
   5) When the optimal state is achieved in Step 4), press the OK key to turn the pattern to OFF.

2. Entering and exiting the adjustment process mode

1) Unplug the AC power cord of running TV set to force off the power.
2) While holding down the “VOL (-)” and “INPUT” keys on the set at once, plug in the AC power cord to turn on the power.

   The letter “K” appears on the screen. **This state is in Inspection mode.**
3) Next, hold down the “VOL (-)” and “CH (﹀)” keys on the set at once.

   Multiple lines of blue characters appearing on the screen indicate that the set is now in **the adjustment Process mode.**

   If you fail to enter the adjustment process mode (the display is the same as normal startup), retry the procedure.
4) To exit the adjustment process mode after the adjustment is done, unplug the AC power cord to force off the power.

   (When the power is turned off with the remote controller, once unplug the AC power cord and plug it in again. In this case, wait for 20 seconds or so after unplugging.)

CAUTION: Use due care in handling the information described here lest the users should know how to enter the adjustment process mode.
If the settings are tampered with in this mode, unrecoverable system damage may result.

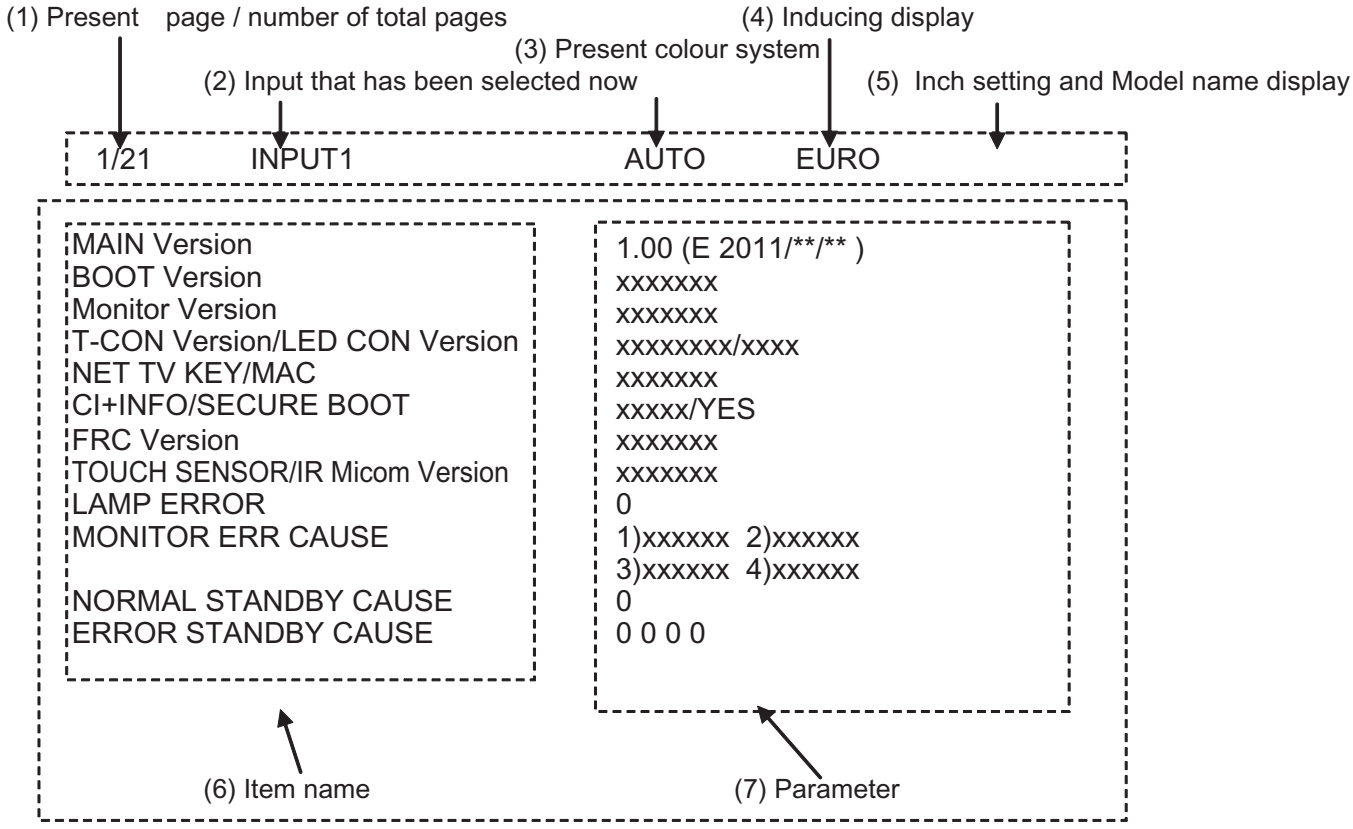
3. Remote controller key operation and description of display in adjustment process mode

1. Key operation

Remote controller key	Main unit key	Remote controller key Main unit key Function
CH keys (﹀/﹀)	CH (﹀/﹀)	Moving an item (line) by one (UP/DOWN)
VOL keys (+/-)	VOL (+/-)	Changing a selected item setting (+1/-1)
Cursor (▲/▼)	—	Turning a page (PREVIOUS/NEXT)
Cursor (◄/►)	—	Changing a selected line setting (+10/-10)
INPUT	INPUT	Input source switching (toggle switching) (TV→EXT1→ etc...)
OK	—	Executing a function
RETURN	—	Returning to a present page

Input mode is switched automatically when relevant adjustment is started so far as the necessary input signal is available.

4. Description of display



No.	Description	Display specification
(1)	Present page/number of total pages	2char/2char Decimal Number mark.
(2)	Input that has been selected now	TUNER/DTV/INPUT1/INPUT2/INPUT3/INPUT5/INPUT6/INPUT7/etc. ···
(3)	Present colour system	AUTO/N358/N443/PAL/SECAM/480i/580i/1080i/50 etc. ···
(4)	Inducing display	EUROPE/RUSSIA/SWEDEN
(5)	Inch setting and Model name display	Inch setting and Model name display
(6)	Item name	Max. 30 char
(7)	Parameter	Max. 60 char

5. List of adjustment process mode menu

The character string in brackets [ ] will appear as a page title in the adjustment process menu header.

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
1/21		[INFO]		
	1	MAIN Version	1xxx (xxxxx)	Main software version
	2	BOOT Version	xxxxxxx	BOOT Version.
	3	Monitor Version	xxxxxxx	Monitor software version
	4	T-CON Version/LED CON Version	xxxxxxxx/xxxx	T-CON/LED CON Version
	5	NET TV KEY/MAC	xxxxxxx	NET TV KEY/MAC Address
	6	CI+INFO/SECURE BOOT	xxxxx/YES	CI+ Key Information/SECURE BOOT
	7	MARLIN	xxxxxxx	
	8	FRC Version	xxxxxxx	
	9	IR Micom Version	xxxxxxx	
	10	LAMP ERROR	0	Number of termination due to lamp error.
	11	MONITOR ERR CAUSE	1)xxxxxx 2)xxxxxx 3)xxxxxx 4)xxxxxx	Last error standby cause.
	12	NORMAL STANDBY CAUSE	0	Situation that became standby at the end. (Excluding the error)
	13	ERROR STANDBY CAUSE	0 0 0 0	Error standby cause
2/21		[INIT]		
	1	INDUSTRY INIT	Enter	Initialization to factory settings execution.
	2	INDUSTRY INIT (-Public)	OFF	Initialization to factory settings execution. (Public mode is excluded)
	3	PUBLIC MODE	OFF	Public mode ON/OFF setting
	4	Center Acutime	—	Main operating hours.
	5	RESET	OFF	Main operating hours reset.
	6	Backlight Acutime	—	Backlight operating hours.
	7	RESET	OFF	Backlight operating hours reset.
	8	LAMP ERROR RESET	OFF	Lamp error reset.
	9	ADJ PARAM SET	Enter	ADJ PARAM SET
	10	VIC XPOS	0	X-coordinate setting for VIC READ
	11	VIC YPOS	0	Y-coordinate setting for VIC READ
	12	VIC SIGNAL TYPE	MAIN	Signal type setting for VIC READ
	13	VIC READ	OFF	Picture level acquisition function (Level appears in green on the upper right)
3/21		[TUNER ADJ]		
	1	TUNER ADJ	Enter	TUNER auto adjustment execution
	2	PAL+TUNER ADJ	Enter	PAL TUNER auto adjustment execution
	3	TUNER ADJ (SMPTE)	Enter	TUNER auto adjustment execution (SMPTE)
	4	PAL+TUNER ADJ (SMPTE)	Enter	PAL TUNER auto adjustment execution (SMPTE)
	5	TUNER ADJ (SMPTE CH57)	Enter	TUNER auto adjustment execution (SMPTE CH57)
	6	PAL+TUNER ADJ (SMPTE CH57)	Enter	PAL TUNER auto adjustment execution (SMPTE CH57)
	7	TUNER CONTRAST A_GAIN	14	TUNER signal level adjustment
	8	TUNER CONTRAST D_GAIN	2048	TUNER signal level adjustment
	9	TUNER CONTRAST OFFSET	256	TUNER signal level adjustment
4/21		[PAL MAIN]		
	1	PAL ADJ	Enter	PAL adjustment
	2	SECAM ADJ	Enter	SECAM adjustment
	3	N358 ADJ	Enter	N358 adjustment
	4	PAL CONTRAST A_GAIN	14	PAL contrast adjustment
	5	PAL CONTRAST D_GAIN	2048	PAL contrast adjustment
	6	PAL CONTRAST OFFSET	256	PAL contrast adjustment
	7	SECAM CONTRAST A_GAIN	14	SECAM contrast adjustment
	8	SECAM CONTRAST D_GAIN	2048	SECAM contrast adjustment
	9	SECAM CONTRAST OFFSET	256	SECAM contrast adjustment
	10	N358 CONTRAST A_GAIN	14	N358 contrast adjustment
	11	N358 CONTRAST D_GAIN	2048	N358 contrast adjustment
	12	N358 CONTRAST OFFSET	256	N358 contrast adjustment
5/21		[CEC TEST]		
	1	HDMI CEC TEST	Enter	HDMI CEC test
	2	HDMI EDID WRITE	Enter	HDMI EDID WRITING
	3	INSPECT USB TERM	Enter	Reading inspection of USB memory terminal
	4	MONIDATA READ [TEMP/OPC]	OFF	MONITOR Temperature/OPC Acquisition tool.
	5	SD CARD TEST	Enter	SD CARD TEST
	6	CAUSE RESET	Enter	Reset of standby cause

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
6/21		[COMP15KMAIN]		
	1	COMP15K ALL ADJ	Enter	Component 15K picture level adjustment
	2	COMP15K MAIN Y GAIN	140	Y GAIN adjustment value
	3	COMP15K MAIN CB GAIN	150	Cb GAIN adjustment value
	4	COMP15K MAIN CR GAIN	150	Cr GAIN adjustment value
	5	COMP15K Y OFFSET	64	Y OFFSET adjustment value
	6	COMP15K CB OFFSET	128	Cb OFFSET adjustment value
	7	COMP15K CR OFFSET	128	Cr OFFSET adjustment value
7/21		[HDTV]		
	1	HDTV ADJ	Enter	HDTV video level adjustment
	2	HDTV Y GAIN	140	HDTV Y GAIN adjustment value
	3	HDTV CB GAIN	150	HDTV Cb adjustment value
	4	HDTV CR GAIN	150	HDTV Cr adjustment value
	5	HDTV Y OFFSET	64	HDTV Y OFFSET adjustment value
	6	HDTV CB OFFSET	128	HDTV Cb OFFSET adjustment value
	7	HDTV CR OFFSET	128	HDTV Cr OFFSET adjustment value
8/21		[ANALOG PC]		
	1	ANALOG PC ADJ	Enter	DVI ANALOG video level adjustment
	2	R OFFSET	64	R CUTOFF adjustment value
	3	G OFFSET	64	G CUTOFF adjustment value
	4	B OFFSET	64	B CUTOFF adjustment value
	5	R GAIN	44	R DRIVE adjustment value
	6	G GAIN	44	G DRIVE adjustment value
	7	B GAIN	44	B DRIVE adjustment value
9/21		[SCART]		
	1	SCART RGB ADJ	Enter	SCART RGB level adjustment
	2	SCART RGB ADJ (FASTSW)	Enter	SCART RGB ADJ (FASTSW) adjustment
	3	SCART R CUTOFF	64	SCART R CUTOFF adjustment value
	4	SCART G CUTOFF	64	SCART G CUTOFF adjustment value
	5	SCART B CUTOFF	64	SCART B CUTOFF adjustment value
	6	SCART R GAIN	44	SCART R GAIN adjustment value
	7	SCART G GAIN	44	SCART G GAIN adjustment value
	8	SCART B GAIN	44	SCART B GAIN adjustment value
10/21		[LUMAADJ]		
	1	VCOM ADJ	64	Common bias adjustment (2D)
11/21		[LEV]		
	1	R GAIN (LO)	0	R DRIVE adjustment value
	2	G GAIN (LO)	0	G DRIVE adjustment value
	3	B GAIN (LO)	0	B DRIVE adjustment value
	4	R GAIN (HI)	0	R DRIVE adjustment value
	5	G GAIN (HI)	0	G DRIVE adjustment value
	6	B GAIN (HI)	0	B DRIVE adjustment value
12/21		[M EEP SET]		
	1	MONITOR TIME OUT	ON	Monitor and the main communication time-out setting
	2	MONITOR MAX TEMP	59	MONITOR MAX temperature setting
	3	MONITOR EEP READ/WRITE	WRITE	MONITOR EEPROM READ/WRITE Setting/execution
	4	MONITOR EEP ADR	0x 0	MONITOR EEPROM arbitrary addressing
	5	MONITOR EEP DATA	0x 0	MONITOR EEPROM arbitrary data specification
13/21		[M TEST PATTERN]		
	1	LCD TEST PATTERN		Pattern with built-in LCD controller display
	2	LCD TEST PATTERN1	NOT SUPPORT	
	3	LCD TEST PATTERN2	OFF	
	4	LCD TEST PATTERN3	NOT SUPPORT	
	5	LCD TEST PATTERN4	NOT SUPPORT	
14/21				
	1	TCON Version EXT.1	xxxxx	
	2	TCON Version EXT.2		
	3	TCON Version EXT.3		
	4	TCON Version EXT.4		
15/21				
	1	3DHDMI FPGA Version	xxxxx	
	2	2D→3D FPGA Version	xxxxx	
	3	3D LED BRIGHTNESS	xxxxx	
	4	3D IR EMITTER CONTROL	xxxxx	

Page	Line	Item	Description	Remarks (adjustment detail, etc.)
16/21		[FR REGI]		
	1	CROSSTALK ADJ MODE	Enter	
	2	CROSSTALK TH1		
	3	CROSSTALK TH2		
	4	CROSSTALK TH3		
	5	CROSSTALK TH4		
	6	CROSSTALK GAIN1		
	7	CROSSTALK GAIN2		
	8	CROSSTALK GAIN3		
17/21				
	1	WiFi SSID 2.4GHz	xxxxx	
	2	WiFi SSID 5 GHz	xxxxx	
	3	WiFi RSSI 2.4GHz	xxxxx	
	4	WiFi RSSI 5 GHz	xxxxx	
	5	WiFi TIME 5 GHz	xxxxx	
	6	WiFi RSSI TEST	xxxxx	
	7	WiFi RSSI RESULT	xxxxx	
18/21				
	1	READ/WRITE	READ	Read/Write
	2	SLAVE/ADDRESS	SLAVE0	Slave address
	3	REGISTER ADDRESS	0x 0 0x 0	Register address
	4	WRITE DATA	0x 0 0x 0	Writing data
	5	READ DATA	0x 0 0x 0	Reading data
19/21				
	1	RF AGC BG	6	RF-AGC BG adjustment execution
	2	RF AGC DK	5	RF-AGC DKG adjustment execution
	3	RF AGC I	6	RF-AGC I adjustment execution
	4	RF AGC L/L'	4	RF-AGC L/L' adjustment execution
20/21		[ETC]		
	1	ERROR STANDBY CAUSE1	NO RECORD	ERROR STANDBY CAUSE
	2	ERROR STANDBY CAUSE2	NO RECORD	
	3	ERROR STANDBY CAUSE3	NO RECORD	
	4	ERROR STANDBY CAUSE4	NO RECORD	
	5	ERROR STANDBY CAUSE5	NO RECORD	
	6	STANDBY CAUSE RESET	OFF	Reset stand by cause.
21/21		[ETC]		
	1	EEP SAVE	OFF	Writing setting values to EEPROM.
	2	EEP RECOVER	OFF	Reading setting values from EEPROM.
	3	MONITOR ERROR CAUSE RESET	OFF	Reset of monitor error cause
	4	MODEL NAME	LE835E	MODEL NAME
	5	PANEL SIZE	70	Panel size setting.
	6	VERUP FLAG ENABLE	Enter	Verup Flag
	7	PANEL LIMIT	ON	PANEL LIMIT
	8	PANEL RANGE LIMIT	xxx	PANEL RANGE LIMIT
	9	SHORT CHECK MODE	Enter	Check LED Back light
	10	SHORT CHECK CURRENT	60	
	11	CURRENT SW	LOW	
	12	PRODUCT EEP ADR	0x 0	Don't touch when serving (for producer of factory)
	13	PRODUCT EEP DATA	0x 0	Don't touch when serving (for producer of factory)
	14	PRODUCT FACTORY	1	Don't touch when serving (for producer of factory)

6. Special features

1. NORMAL STANDBY CAUSE (Page 1/21)

   Display of a cause (code) of the last standby.

   The cause of the last standby is recorded in EEPROM whenever it is possible.

   Checking this code will be useful in finding a problem when you repair the troubled set.

2. EEP SAVE (Page 21/21)

   Storage of EEP adjustment value.

3. EEP RECOVER (Page 21/21)

   Retrieval of EEP adjustment value from storage area.

4. MONITOR ERR CAUSE (Page 1/21)

   Display of a cause (code) of Error from Monitor microcomputer.

   The cause of Error is recorded in EEPROM whenever it is possible.

   Checking this code will be useful in finding a problem when you repair the troubled set.

   1) This displays Error code and time when the error occurred.

      The latest error is displayed on “1)”.

      The error that happens ahead of “1)” is displayed on “2)”.

   2) The character depends on the way how to acquire Time Information.

      T: Time is acquired from digital broadcasting
      This doesn’t contain “Time offset” which is considered a time difference and Daylight-Saving Time, etc. ...
      U: Time is acquired from analog broadcasting (teletext)
      B: Accumulation time of Backlight
      In the case that Time information cannot be acquired, “B” is displayed.

   Example) In this example, it is shown that the error occurred 3 times.

   1) 16 T07/01/01 12:03 Error code: 16 (lamp error) Time: 07/01/01 12:03
      * It is latest Error.
      * Time is acquired from digital broadcasting.
      * Time is UTC which doesn't have Time offset.

   2) 16 U01/01/01 04:07 Error code: 16 (lamp error) Time: 07/01/01 04:07
      * It is Error that happens ahead of “1)”.
      * Time is acquired from analogue broadcasting.

   3) 16 B00000004:11 Error code: 16 (lamp error) Accumulation time: It is displayed that 4:11 have passed after Backlight driving.
      * It is Error that happens ahead of “2)”.

   4) 00 0000000000000 No error (“00” shows that the error is not occurred.)

7. Lamp Error detection

1. Function

This LCD color TV set incorporates a Lamp error detection feature that automatically turns off the power for safety under abnormal lamp or lamp circuit conditions. If by any chance anything is wrong with the lamp or lamp circuit or if the lamp error detection feature is activated for some reason, the following will result.

1) The power is interrupted in about 500ms after it is turned on.

(A central icon on the front of the TV flash on and off.: ON for 400ms and OFF for 1600ms.)

2) If the above phenomenon 1) occurs 5 times, it becomes impossible to turn on the power.

(A central icon keep flashing on/off.)

2. Measures

1) Set the lamp error detection to OFF

Enter the adjustment process mode, referring to “2. Entering and exiting the adjustment process mode”.

The adjustment process mode can ignore “5 times count”, so If the above phenomenon 1) occurs 1~4 times, the lamp will go out.

If Lamp Error detection pin [4pin of PD: P9602/19pin of IC2001] is “High” by a trouble with the lamp and lamp circuit, it can boot-up by the adjustment process mode.

Please execute **“Lamp Error detection off-mode”**

Unplug the AC power cord of running TV set to force off the power.

While holding down the “VOL (-)” and “CH (∧)” keys on the set at once, plug in the AC power cord to turn on the power.

After a central icon flash off, separate the fingers from key on the set.

Then, you can check the operation to see if the lamp and lamp circuit are in trouble.

If you fail boot-up, retry the procedure.

2) Resetting the lamp error count

After the lamp and lamp circuit are improved from a trouble, reset the lamp error count.

(Because the power cannot be turned on, if a lamp error is detected 5 consecutive times.)

a) Enter the adjustment process mode, referring to “2. Entering and exiting the adjustment process mode”.

b) Using the cursor (▲/▼) key, move to the cursor to [LAMP ERROR RESET], Line 8 on adjustment process mode service page 2/21.

c) With the cursor (◄/►) keys, select the [LAMP ERROR RESET] value.

Finally press the cursor (OK)., the count is reset.

Check LAMP ERROR Count on adjustment process mode Page 2/21.

Table of contents of adjustment process mode Page 2/21

INDUSTRY INIT	Enter	
INDUSTRY INIT (-Publicl)	OFF	
Pubric MODE	OFF	
Center Acutime	—	
RESET	OFF	
Backlight Acutime	—	
RESET	OFF	
LAMP ERROR RESET	OFF	← Resetting to "0"
ADJ PARAM SET	Enter	
VIC XPOS	0	
VIC YPOS	0	
VIC SIGNAL TYPE	MAIN	
VIC READ	OFF	

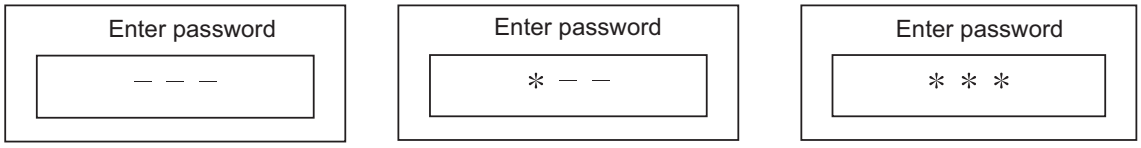
8. Public Mode

1. Starting the Public Mode

   1) Method of needing password

      a) While holding down the “INPUT” and “Volume UP” keys on the set at once, plug in the AC power cord to turn on the power.

      b) Display the Pass Word input screen.
      After a while, value of Enter password appears on the screen.



      Operation procedure

      - The initial input position is the digit at the left end.
      - For the numeric keys “0” to “9” of R/C, key input is accepted.
        Input of the other keys is prohibited.
      - Change “—” to “✻” by inputting the numeric key at the input position, and shift the input position rightward one digit.
      - When three digits are completely input, the Pass Word is judged.

      c) Check the Pass Word by inputting three digits.
      If the Pass Word “0” “2” “7”, it shifts to the PUBLIC Mode setting screen.
      In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Public Mode Setting screen

   - There are two following ways to exit the Public Mode setting screen.

   1) Turn off the power.

   2) Select “Execution” in the PUBLIC_Mode to execute it.
      Activate the restart under the set content.
      Here, the START input SOURCE setting is excluded since this item is referred to only when the power is turned on.

3. Set value of the Public Mode

   - When the shipment setting is done, a set each value in Public Mode is initialized.
     (PUBLIC MODE in the process mode Setting of a flag is also initialized)
   - Separately, the shipment beginnings when all except for each set value in Public Mode is initialized are provided for a process mode.
     (INDUSTRY INIT (-Public))
   - Only when turning on the PUBLIC MODE item, each setting is effective.
   - After it decides it with EXECUTE, it AC OFF/ON it to reflect a set value.

4. Basic operation in the Public Mode

Vol (+/-) or Cursor (◄/►)	Change or execution of the set value.
CH (+/-) or Cursor (▲/▼)	Movement to the selected item.
Decision (ok)	Excution (Used by the items "Execution" and "RESET".)

Public Mode setting screen.

Public Mode	
POWER ON FIXED	[VARIABLE]
SHUT DOWN MODE	[NORMAL]
MAXIMUM VOLUME	[60]
VOLUME FIXED	[VARIABLE]
VOLUME FIXED LEVEL	[20]
RC BUTTON	[RESPOND]
PANEL BUTTON	[RESPOND]
MENU BUTTON	[RESPOND]
AV POSITION FIXED	[VARIABLE]
ON SCREEN DISPLAY	[YES]
INPUT MODE START	[NORMAL]
INPUT MODE FIXED	[VARIABLE]
LOUD SPEAKER	[ON]
RC PATH THROUGH	[OFF]
232C POWON	[DISABLE]
PUBLIC MODE	[ON]
RESET	
EXECUTE	

5. Operation after “RESET”

Select “RESET” in the PUBLIC Mode, and it operates as follows when it is executed (refer to the basic operation).

- The set contents in the PUBLIC mode are initialized.
- It does not exit the PUBLIC mode.
- If “EXCUTE” is not executed, the content that does RESET is not reflected.

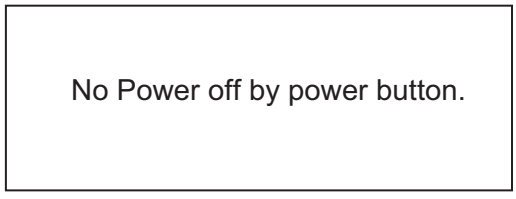
6. Setting items. (* Item names and selective items are expressed in English.)

1) Power ON fixed [POWER ON FIXED]

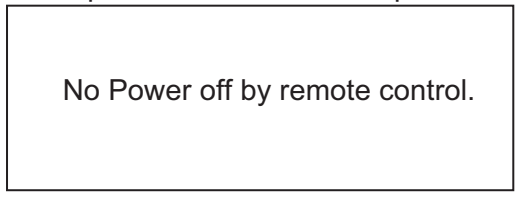
Option	“VARIABLE”, “FIXED_ALL”, “FIXED_BODYKEY” or “RCRESPOND” (loop enabled)
Default	“VARIABLE”
Function	• VARIABLE : “POWER/RECEPTION” key on TV unit or remote control is enabled. • FIXED_ALL : “POWER/RECEPTION” key on TV unit or remote control is disabled. • FIXED_BODYKEY : Only the “MAIN POWER” key on TV unit is disabled (The remote control is enabled). • RC RESPOND : The main unit’s POWER switch toggles between ON and Standby (the same operation by the remote control).
Key disabled when set other than default	• OFF TIMER (SLEEP) (*Only when setting to FIXED_ALL)
Remarks	• When selecting to “FIXED_ALL”, function related standby factors (see below) doesn’t work. and not selecting. OFF TIMER (Sleep) No operation OFF No signal OFF (including the power management) * These items does not exist according to the model.

If the power button is pressed in the ordinary mode in setting to “FIXED_ALL” and “FIXED_BODYKEY”, the caution is displayed for 5 seconds.

When power button on the main unit is pressed



When power button on R/C is pressed



* The OSD display is an example.

If another ODS is previously displayed, the status is reset (MENU or similar).

2) Instantaneous current shutdown setting in turning off the power [SHUT DOWN MODE]

Option	“NORMAL” or “QUICK”
Default	NORMAL
Function	• This function decides whether scanning digital tuner is enabled or disabled when the power is standby.
	NORMAL : Scanning digital tuner is enabled when the power is standby. QUICK : Scanning digital tuner is disable. It is possible to put into the standby state instantaneously due to power off input, when the power is standby. Immediately, state is a complete standby.
Remarks	In selecting “QUICK”, the function does not work for the following items. (selection impossible.) • ON TIMER, QUICK START, DIGITAL FIXED, etc. * These items does not exist according to the model.

3) Volume maximum level [MAXIMUM VOLUME]

Option	0~60 (loop disabled)
Default	60
Function	The volume cannot be increased more than the adjusted value (the main unit’s speaker only).
Remarks	• When setting to 59 or less, only the figure is displayed in the normal mode; the volume bar is not displayed. • The volume of the headphones is limited. • The setting is impossible when VOLUME FIXED is set to FIXED.

4) Volume fixed [VOLUME FIXED]

Option	“VARIABLE”, “FIXED”, “ACCTRL” or “AC/RCCTRL” (loop enabled)
Default	“VARIABLE”
Function	• VARIABLE : The volume is not fixed. • FIXED : The volume is fixed to the value adjusted in the volume fixed level. • AC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in the case of the AC-ON only. • AC/RC CTRL : The unit starts at the volume specified in the volume fixed level, when power is turned on in any case. (AC→ON, remote control→ON, main utit's key→ON)
Exception	• In the adjustment process, the volume can be set to any level regardless of this setting.
Disabled key when setting to FIXED	• VOLUME UP/DOWN [both remote control and main unit] • MUTE * Main units's key is enabled for operating menu.
Remarks	• [MAXIMUM VOLUME] has priority to [VOLUME FIXED] * When setting to FIXED, Maximum volume is fixed. • The volume of the headphones is fixed. • When setting to “FIXED”, the volume is not displayed in operating Disabled key. • In menu operation, the main unit’s keys (Vol (+/-)) are enabled. • Volume level graphic be omitted to volume level number. • In setting to FIXED, ONVOL of On TIMER is not selected (Eliminate Item) • In setting to AC/RC CTRL, ONVOL of On TIMER i is not selected (Eliminate Item)

5) Volume fixed level [VOLUME FIXED LEVEL]

Option	0~60 (loop disabled)
Default	20
Function	The volume is fixed to the adjusted value (the main unit’s speaker only).
Exception	• In the adjustment process, the volume can be set to any level regardless of this setting.
Remarks	• When [VOLUME FIXED] is set to “VARIABLE”, the setting cannot be changed. • VOLUME can be abbreviated to VOL.

6) Remote control operation [RC BUTTON]

Option	“RESPOND”, “NORESPOND” or “LIMITED” (loop enabled)
Default	“RESPOND”
Function	The operation of the remote control’s keys is set. RESPOND : The remote control’s keys in the normal state are enabled. NO RESPOND : The remote control’s keys in the normal state are disabled. The POWER key (RECEPTION/STANDBY key) is also disabled. LIMITED : Only a part of keys (CHANNEL, etc.) is enabled and other keys are disabled.
Exception	• All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen.
Remarks	The enable keys when setting to “LIMITED” are depended on Model.

7) Main Unit Operation [PANEL BUTTON]

Option	“RESPOND” or “NO RESPOND” (loop enabled)
Default	“RESPOND”
Function	• RESPOND : The main unit’s keys are enabled. • NO RESPOND : The main unit’s keys are disabled excluding the POWER key (RECEPTION/STANDBY key).
Exception	• The start operation in the adjustment process mode, inspection mode are enabled regardless of this setting. • All the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public Mode setting screen. • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting during the initial setting when the power is turned on for the first time.

8) Menu operation [MENU BUTTON]

Option	“RESPOND” or “NO RESPOND” (loop enabled)
Default	“RESPOND”
Function	The MENU key on the main unit and remote control is decided whether it is enabled or disabled.
Exception	• RESPOND : The manu key is enabled. • NO RESPOND : The manu key is disabled. : All the keys are enabled regardless of this setting while entering the process mode, inspection mode or Public Mode setting screen.
Disabled key excluding Menu key when setting to not default	All the direct transition keys to menu display. (AUTO PRESET, MANUAL MEMORY and others) * These keys does not exist according to the model.
Remarks	When setting to “NO RESPOND” • For the models with the MENU key on the main unit, menu operation is possible regardless of the setting while the initial setting when the power is turned on for the first time.

9) AV position fixed [AV POSITION FIXED]

Option	“VARIABLE” or “FIXED” (loop enabled)
Default	“VARIABLE”
Function	• VARIABLE : AV position is not fixed. • FIXED : AV position is fixed. : The image/sound adjustment items in the menu are fixed in the selected state. : When receiving “AV POSITION” of the remote control, only the actual state is displayed, and setting is not changed.
Remarks	• When receiving the sound select direct keys (AV POSITION key, OPC, DOLBY key, etc.), only the actual state is displayed; no setting is changed. * These keys does not exist according to the model. • The settings for the Public mode are retained after the personal data is initialized, each item for the AV position and image/sound adjustment are not initialized.

10) OSD display [ON SCREEN DISPLAY]

Option	“YES”, “NO” or “LIMITED” (loop enabled) “LIMITED” is looped only in case of need (destination).
Default	“YES”
Function	• YES : OSD is displayed. • NO : The following OSD is not displayed. Registration, setting, adjustment menu, channel call, volume bar, and input select. • LIMITED : Only a part of OSD (CH call: “New Information” etc...) is not displayed.
Key which may be enabled (Example of the confusing key)	• It is OK in the case that simple input select occur or the original state returns soon automatically.
Disabled key when setting to not default	• When setting to “NO”, the keys which is related to visibility of the screen and sound cannot be used. STILL IMAGE, SCREEN DISPLAY, OFF TIMER, AV POSITION, BRIGHTNESS SENSOR, SCREEN SIZE SELECT, AUTO PRESET, MANUAL MEMORY, IMAGE SELECT, SOUND SELECT, LANGUAGE, Closed caution * Disabled keys dependeds on the models.
Remarks	• When setting to “NO”, ON TIMER (Watching reservation) is cleared. OFF TIMER “SLEEP” is cleared. * These items does not exist according to the model. • When setting to “NO”, These Displays (Version-up, Public mode setting screen, Pass Word input screen of Public Mode, the adjustment process mode, K mark of inspection mode) are enabled regardless of this setting.

11) Start mode [INPUT MODE START]

Option	“NORMAL” or “Input source 1 (input selection or channel)” ... (loop enabled)
Default	“NORMAL”
Function	Which kinds of input source or channel is decided when the power turning on. NORMAL : The content of the last memory is followed.
Remarks	• When setting to not Normal, ON TIMER (Watching reservation) has priority. • When setting to “NORMAL”, [INPUT MODE FIXED] is set to “VARIABLE” and [INPUT MODE FIXED] is prohibited to select. (selection impossible.)

Example of option: “NORMAL”, “TVD (002TV)”, “INPUT1”, “INPUT2”, “INPUT3”, “HDMI1”, “HDMI2”, “HDMI3”, “HDMI4”.

12) Input fixed [INPUT MODE FIXED]

Option	“VARIABLE”, “FIXED”, “ACCTRL” or “AC/RCCTRL” (loop enabled)
Default	VARIABLE
Function	VARIABLE : If [INPUT MODE START] is set to Normal, input mode is not fixed. FIXED : When “INPUT MODESTART” is active, it is impossible to switch to another channel or input source. AC CTRL : When “INPUT MODESTART” is active the unit starts at the input mode which is selected when power is turned on in the case of the AC-ON only. AC/RC CTRL : When “INPUT MODESTART” is active the unit starts at the input mode which is selected when power is turned on in any case. (AC→ON, remote control→ON, main utit's key→ON)
Disabled key when setting to “FIXED”	CHANNEL (+/-), DIRECT CHANNEL buttons, FLASHBACK, INPUT SELECT, TV/VIDEO, AUTO PRESET, MANUAL MEMORY, i.LINK, DIRECTINPUTSELECT, ATV, DTV, EPG, RADIO etc...
Remarks	• If [INPUT MODE START] is Normal, this function cannot be set. Set to “VARIABLE” automatically. • When setting to “FIXED”, The item related to the channel setting and input selection in Menu are not displayed. ON TIMER (Watching reservation) is not active. * These items does not exist according to the model.

13) Speaker ON/OFF selection [LOUD SPEAKER]

Option	“ON” or “OFF” (loop enabled)
Default	ON
Function	ON : The sound from the speakers is output. OFF : The sound from the speakers is not output even if the headphones are not used.
Remarks	• When the VOL (+/-) key is pressed, the mute icon is displayed for 4 seconds. • For the MUTE key and sound-related keys, caution is displayed. • For the headphones, normal operation is possible.

14) Remote control path through [RC PATH THROUGH]

Option	“OFF”, “ON: TVRCE” or “ON: TVRCD” (loop enabled)
Default	OFF
Function	The item decide whether the signal received by the remote control’s light-receiving section is output to the blankpin (9pin) of RS232C. OFF : This function is not active. ON: TVRCE : This function is active, and remote control is active, too. ON: TVRCD : This function is active, but remote control is not active.
Exception	• In the case of “ON: TV RCD”, the start operation in the adjustment process mode, inspection mod are enabled regardless of this setting. • In the case of “ON: TV RCD”, all the keys are enabled regardless of this setting while entering the adjustment process mode, inspection mode or Public mode setting screen.
Remarks	* Remote control path through does not exist according to the model.

15) 232C power ON control [232C POWON]

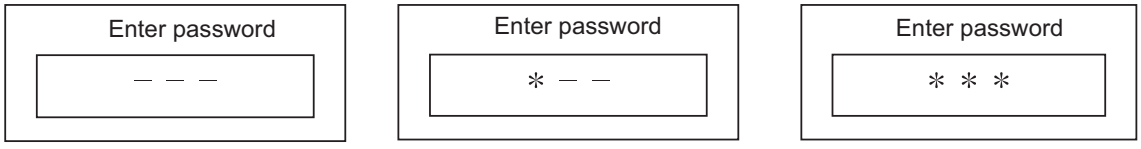
Option	“ENABLE” or “DISABLE” (loop enabled)
Default	DISABLE
Function	The item decide whether Power ON by the 232C command is enabled/disabled in the standby state. The same function as 232C command “RSPW”. ENABLE : POWR0001 is always enabled. DISABLE : Start-up may be impossible at POWR0001. (If the 232C command reception module is set to OFF, the command is invalid.)

16) Public mode setting [PUBLIC MODE]

Option	“OFF” or “ON” (loop enabled)
Default	OFF
Function	The item decide whether Public mode setting menu are enabled or disabled. The same item as [PUBLIC MODE] in the adjustment process menu. OFF : Public mode is not active. ON : Public mode is active.
Remarks	Each operation of the Public mode is impossible unless this item is set to ON.

9. Copy Mode

1. Starting the Copy Mode
   1) Method of needing password
      a) While holding down the “INPUT” and “Volume UP” keys on the set at once, plug in the AC power cord to turn on the power.
      b) Display the Pass Word input screen.
         After a while, value of Enter password appears on the screen.



         Operation procedure
         - The initial input position is the digit at the left end.
         - For the numeric keys “0” to “9” of R/C, key input is accepted.
           Input of the other keys is prohibited.
         - Change “—” to “✻” by inputting the numeric key at the input position, and shift the input position rightward one digit.
         - When three digits are completely input, the Pass Word is judged.

      c) Check the Pass Word by inputting three digits.
         If the Pass Word “3” “6” “9”, it shifts to the Copy Mode setting screen.
         In another case, the screen is erased, and it operates in the ordinary mode.

2. Exiting the Copy Mode Setting screen
   There is following way to exit the Copy Mode setting screen.
   - Turn off the power. (Unplug the AC power cord from the outlet to forcibly turn off the power.)

3. Basic operation in the Copy Mode

CH (+/-) or Cursor (▲/▼)	Movement to the selected item.
Decision (ok)	Execution

4. Restriction of Copy Mode
   - USB thumb drive should be more than 1Mbyte.
   - File system of USB thumb drive should be FAT (FAT32).
   - More than one USB thumb drive shouldn't be connected to TV.
   - All USB terminals can be valid, but more than one USB thumb drive shouldn't be connected to TV.
   - If USB device is detected by TV, focus is not appropriated to items.
   - In Copy mode (TV→USB) and (USB→TV), following should be mutched.
     Vender Name (Fixed)
     Key Information (Fixed)
     USB Cline Version
     Inch Size
     Country setting (Factory initialization)
     Model Name
     Software Version
   - In each TV, setup of Network and IP control should be set again.

NOTE: • It is unnecessary to execute “Initial Auto Instration” for Copy Mode.
(Obviously, setting the country is also unnecessary.)
• Copy Mode can’t start until the TV recognizes a USB device.
TV takes about 20 seconds to recognizes a USB device after boot-up.

5. Copy data
   Copy data is as follows;

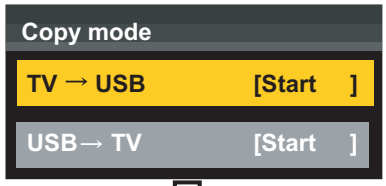
Copy Data	Remarks
Size of Ch call	
Card slot selection Setting	
Alphabet sorts do/not	
HOME/Store Setting	
Public Setting	
Sound multiplex information in each Ch	
Administrative information for Time Shift	Vendor ID, Product ID, Serial ID for storage
Communication's information	IP address, Gateway, DNS address Kinds of Security key encryption (WiFi) Access point identifier (WiFi) Key for access point
IP control setting information	Device name, Login ID, Password, Communication port
DTV service list	Number of all services CH list Number of broadcasting on each network
Last value	Last network information (DVB-T, DVB-S, DVB-C, ATV) Last channel information Volume, wide mode, and subtitle
Local Time Information	Information that corrects ±X time against Universal Time
User Manu Data	User Menu Data don't have these information. Temporary data Message list, Reception report, EPG, Off timer, Off video, and Signal strength Peculiarity data for TV DRM information for DivX, Mac address, and Accumulated time information Connected equipment information (But the recorder selection of the AQUOS LINK setting can be copied.) physical address Category of equipment Maker Name Connected model name Data related to encrypted broadcasting (CI+) Adjustment process mode Data

6. Operating

1) Copy mode (TV→USB))

① Execute start in Copy Mode setting screen.

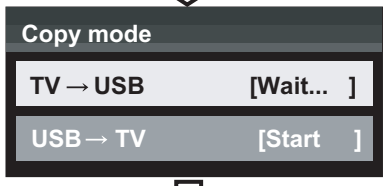
※ If USB device is detected by TV,
focus is not appropriated to items.



Execcute

② [Wait···] is displayed while executing it.
When succeeding: Done is displayed.
When failing: Failed is displayed.

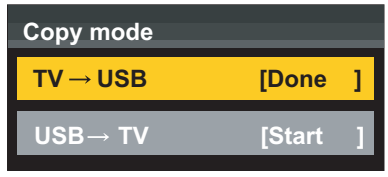
※ Key opration is not valid in coping.

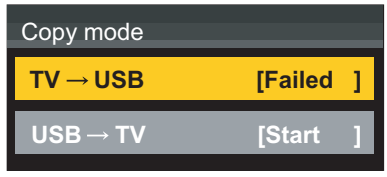


Success

Fail

③ After success of copy,
unplug the AC power cord from the outlet, please.

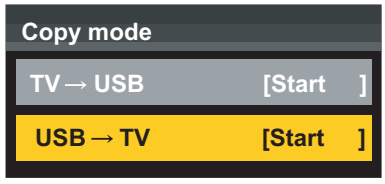




2) Copy mode (USB→TV))

① Execute start in Copy Mode setting screen.

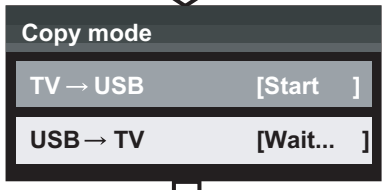
※ If USB device is detected by TV,
focus is not appropriated to items.



Execcute

② [Wait···] is displayed while executing it.
When succeeding: Done is displayed
When failing: Failed is displayed.

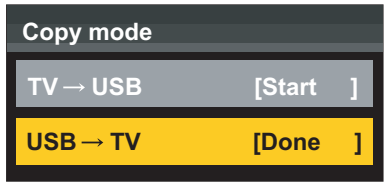
※ Key opration is not valid in coping.

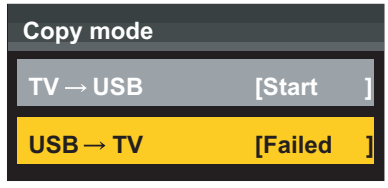


Success

Fail

③ After success of copy,
unplug the AC power cord from the outlet, please.





10. Video signal adjustment procedure

The adjustment process mode menu is listed in Section 5.

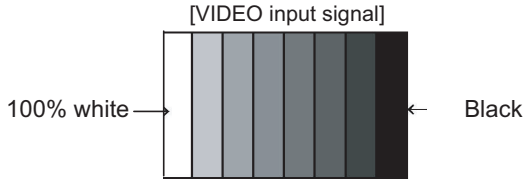
Signal generator level adjustment check. (Adjustment to the specified level)

- Composite signal PAL : 0.7Vp-p ± 0.02Vp-p (Pedestal to white level)
- 33K component signal (50 Hz) : Y level : 0.7Vp-p ± 0.02Vp-p (Pedestal to white level)
  : PB, PR level : 0.7Vp-p ± 0.02Vp-p
- ANALOG PC (RGB) signal : RGB level : 0.7Vp-p ± 0.02Vp-p

10.1. Entering the adjustment process mode

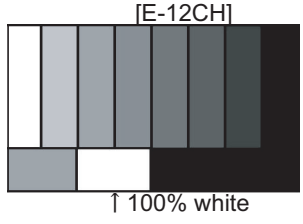
Enter **the adjustment process mode** according to Section 2.

10.2. PAL signal adjustment

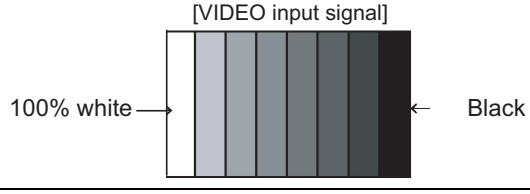
	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL Full field colour bar composite signal [Terminal] EXT1 SCART Video (PAL) IN	• Feed the PAL full field colour bar signal (75% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [PAL ADJ] page 4/21	Bring the cursor on [PAL ADJ] and press [OK]. [PAL ADJ OK] appears when finished.

* **ATTENTION:** Please execute [10.3. TUNER adjustment] afterwards if you adjust [10.2. PAL signal adjustment] after all adjustments are completed.

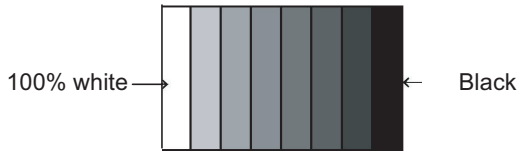
10.3. TUNER adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] PAL sprit field colour Bar RF signal UV [Terminal] TUNER	• Feed the PAL Split Field colour bar signal (E-12ch) to TUNER. • Make sure the PAL colour bar pattern has the sync level of 7:3 with the picture level. Signal level: 55 dB μV ± 1dB (75Ω LOAD) 
2	Auto adjustment performance	Adjustment process [TUNER ADJ] page 3/21	Bring the cursor on [TUNER ADJ] and press [OK]. [TUNER ADJ OK] appears when finished.

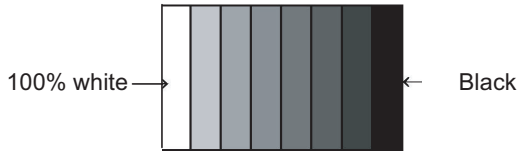
10.4. SECAM adjustment

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] SECAM Full field colour Bar Signal [Terminal] EXT1 SCART IN	• Feed the SECAM full field colour bar signal (75% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [SECAM ADJ] page 4/21	Bring the cursor on [SECAM ADJ] and press [OK]. [SECAM ADJ OK] appears when finished.

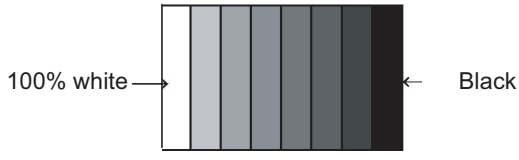
10.5. ADC adjustment (Component 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP15K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	• Feed the COMPONENT 15K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [COMP15k ALL ADJ] page 6/21	Bring the cursor on [COMP15k ALL ADJ] and press [OK]. [COMP15K ALL ADJ OK] appears when finished.

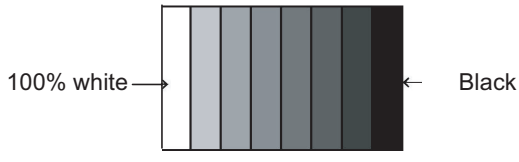
10.6. ADC adjustment (Component 33K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] COMP33K, 50Hz 100% Full field colour bar Signal [Terminal] EXT3 COMPONENT IN	• Feed the COMPONENT 33K 100% full field colour bar signal (100% colour saturation) to EXT3 COMPONENT IN. 
2	Auto adjustment performance	Adjustment process [HDTV ADJ] page 7/21	Bring the cursor on [HDTV ADJ] and press [OK]. [HDTV ADJ OK] appears when finished.

10.7. PC signal adjustment (ANALOG D-Sub 15pin)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] XGA, 60Hz 100% Full Field Colour Bar Signal [Terminal] PC IN	• Feed the XGA 60Hz 100% full field colour bar signal (100% colour saturation) to PC IN. 
2	Auto adjustment performance	Adjustment process [ANALOG PC ADJ] menu page 8/21	Bring the cursor on [ANALOG PC ADJ] and press [OK]. [ANALOG PC ADJ OK] appears when finished.

10.8. RGB (SCART) adjustment (RGB 15K)

	Adjustment point	Adjustment conditions	Adjustment procedure
1	Setting	[Signal] RGB 15K, 50Hz 100% Full field colour bar signal [Terminal] EXT1 SCART RGB IN	• Feed the RGB 15k 50Hz 100% full field colour bar signal (100% colour saturation) to EXT1 SCART IN. 
2	Auto adjustment performance	Adjustment process [SCART RGB ADJ] menu page 9/21	Bring the cursor on [SCART RGB ADJ] and press [OK]. [SCART RGB ADJ OK] appears when finished.

11. White balance adjustment

For white balance adjustment, adjust the offset values on pages 11/21.

[Condition of the unit for inspection] : Modulated light (+16)
AV MODE: DYNAMIC
Active Backlight: OFF
OPC: OFF
Asing Time: Min, 60 minute

[Input signal condition] : HDMI 1080i 15IRE (LO), 78IRE (HI)

[Adjustment reference device] : Minolta CA-210

[Adjustment procedure]

1) Display the current adjustment status at R/G/B_GAIN (HI). (Page 11/21 of process adjustment)
   The signal of 78IRE is input.
2) Read the value of the luminance meter. x=0.272, y =0.277
3) Change R_GAIN (HI)/ B_GAIN (HI) (Adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach x=0.272 and y =0.277.
   (Basically, G is not changed. If adjustment fails with R and B, change G. When G is lowered, the weaker of R or B must be fixed.)
4) Display the adjustment status of the current R/G/B_GAIN (LO).
   The signal of 15IRE is input.
   Change R_GAIN (LO)/ B_GAIN (LO) (adjustment offset value) on page 11/21 of process adjustment so that the values of the luminance meter approach x =0.272 and y = 0.277.
5) Both HI and LO are repeating the step from 1 to 4 until becoming an aim value.
   [Adjustment reference standard value]
   Adjustment spec ± 0.002 Inspection spec ± 0.004 (point LO)
   Adjustment spec ± 0.001 Inspection spec ± 0.002 (point HI)
6) After completing adjustments, set EEP SAVE (Page 21/21) to ON in the process menu to save the white balance adjustment value.

12. Confirmation item

1. HDMI-CEC Inspection
   After repairing the CEC function, check the operation about HDMI-CEC circuit.
2. CI card Inspection
   After repairing the CI function, check that the DTV signal is received by inserting CAM.
   And check the KEY certification by inserting CAM which is prepare for CI+.
3. LAN Inspection (NET)/test connectivity of SD card.
   After repairing the LAN function, check the communication by connecting PC and LAN terminal.
   And test connectivity of SD card.
4. 3D Check
5. IR communication Check/IR Emitter (Infrared light Output) Inspection.

13. Initialization to factory settings

CAUTION: When the factory settings have been made, all user setting data, including the channel settings, are initialized.
(The adjustments done in the adjustment process mode are not initialized.) Keep this in mind when initializing these settings.

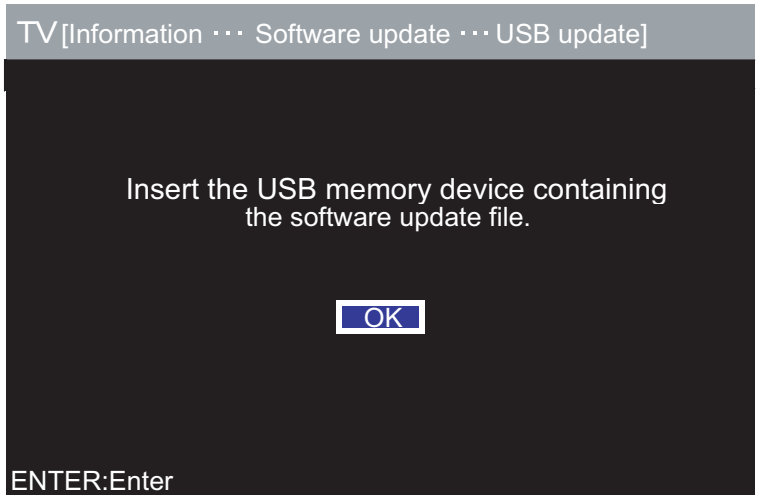
	Adjustment item	Adjustment conditions	Adjustment procedure
1	Factory settings	Ends by turning off the MAIN POWER key. (See to below caution)	[Factory setting with adjustment process mode] • Enter the adjustment process mode. • Move the cursor to [INDUSTRY INIT] on page 2/21. • Use the R/C key to select a region from [EUROPE/RUSSIA/SWEDEN] and press the [OK] key. • “EXECUTING” display appears. • After a while, “SUCCESS” display appears, the setting is completed. When succeeding: Background color (green) When failing: Background color (red)
			The following items are initialized in the factory setting. 1) User settings 2) Channel data (e.g. broadcast frequencies) 3) Maker option setting 4) Password data

After adjustments, exit the adjustment process mode.
To exit the adjustment process mode, unplug the AC power cord from the outlet to forcibly turn off the power.
When the power is turned off with the remote control, unplug the AC power cord and plug it back in (wait approximately 20 seconds before plugging in the AC power cord).
After completing the NET connection., execute the NET initialization (Record of the server access).

Please execute the initialized in the factory setting again when you turn on the power supply after the initialized in the factory setting is set.

14. Upgrading the software

1. Turn on the AC power.
2. Insert the upgrading USB flash memory for upgrade into the service slot.
   (After a while, an external input changes into USB automatically.)
3. Use the Menu button and cursor keys (◄/►/▲/▼), Ch keys (﹀/﹀) of R/C or on the set to select Menu - Setup - Information - Software update - USB update on OSD menu.
4. The message (Insert the USB memory device contains the software update file) shows up.
   Push OK when if there is no problem.


TV [Information ··· Software update ··· USB update]
Insert the USB memory device containing
the software update file.
OK
ENTER:Enter

5. After a while, if software update file is detected in the USB memory device, the following screen shows up.
   Select OK when if there is no problem.

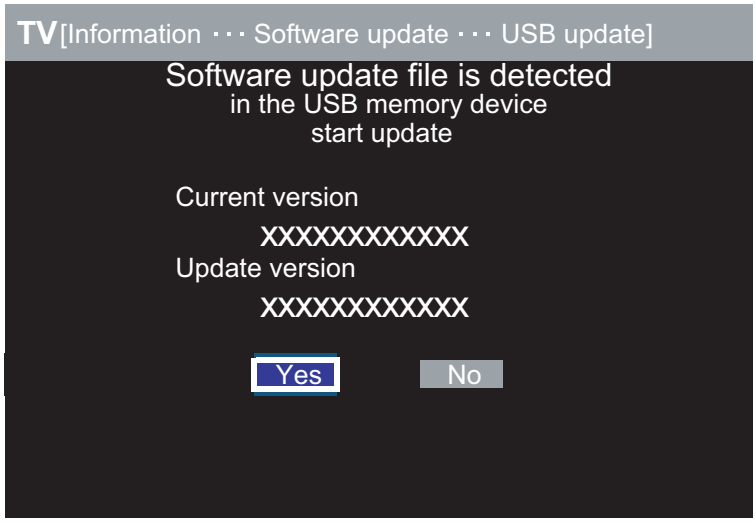
NOTE: If USB memory device isn't correctly inserted in TV, caution shows up.
Please insert USB memory device and retry software update.

NOTE: If there are more than two software update files in the USB memory device, caution shows up.
Please insert one file and retry software update.

NOTE: If there is no software update file in the USB memory device, caution shows up.
Please insert the correct file and retry software update.

NOTE: If software update file in the USB memory device doesn't mutch this model, caution shows up.
(Because Model name is unmatched or check sum error occurs.)
Please insert the correct file and retry software update.

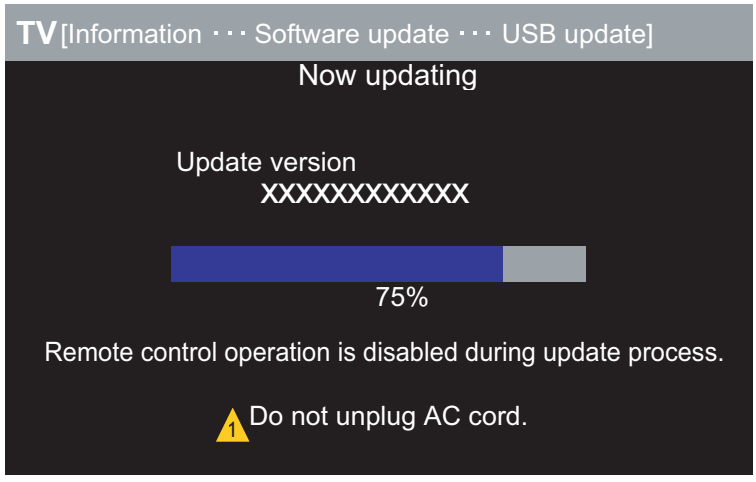
NOTE: If software update file in the USB memory device is already installed, caution shows up.
Please reconfirm the software version and reinstall. (if necessary)



6. The caution for update showes up.
   - The picture will temporary go dark until the software update display apeeares.
   - Wait several minutes and don't unplug the AC cord.

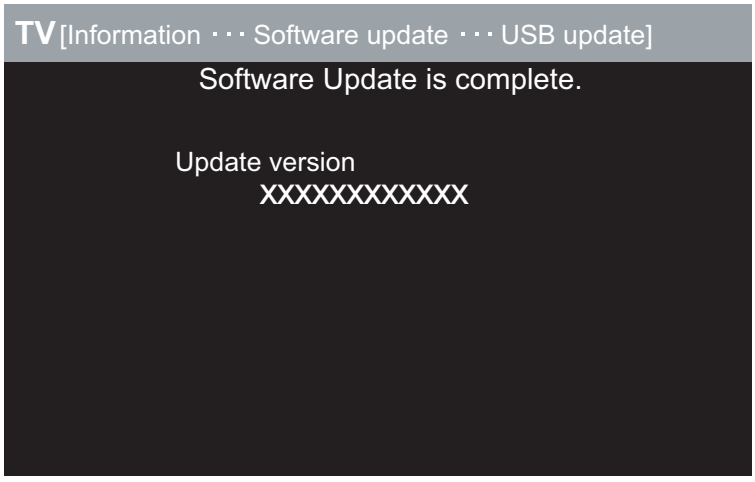
   Select OK when if there is no problem.
7. Software update starts.
   Please wait for a while until the bar shows 100%.

NOTE: Do not take out the USB memory device during updating.

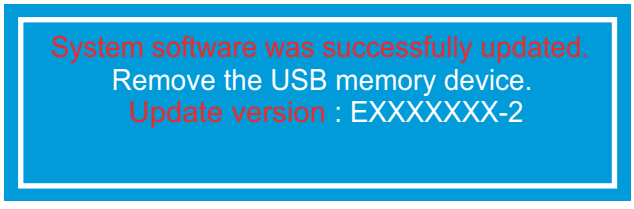


8. When all the procedures are complete, the following upgrade success screen shows up.
   The new software version can be confirmed on screen.
   After a while, Turn off power and boot-up automaticaly.

NOTE: TV is restarted automaticaly, the AC code need not be pulled out.



9. After boot-up, the following caution shows up.
   Select OK when if there is no problem.
   Software update is completed, please remove the USB memory device.



NOTE: Then get the set started and call the process adjustment screen (Top Page) to check the main software version.

CHAPTER 6. TROUBLESHOOTING TABLE

[1] TROUBLESHOOTING TABLE

No power (Central Icon LED failure to light up) or No startup (Central Icon LED is flashing)

↓

Is the AC cord connector tightly connected to the set?	NO →	Reconnect the AC cord tightly and turn on the power again.

↓ YES

Are the wire harnesses and other cables properly connected to the set?	NO →	Reconnect the wire harnesses and other cables properly to the set.

↓ YES

Is power supplied from pins [9/BU+5V] of [PD] P9602?	NO →	Replace the power unit.

↓ YES

Is there the pins [12/PS_ON] of [PD] P9602 at “H”?	NO →	Check the signal line between PS_ON and IC2001 (UCOM)/ IC3303 (Digital AV decode & Main CPU).

↓ YES

Is there the pins [11/AC_DET] of [PD] P9602 at “H”?	NO →	Check the power unit, and the signal line between AC_DET and IC2001/IC3303.

↓ YES

Is power supplied from pins [17~20/UR+13V] of [PD] P9602 as specified?	NO →	Check the line between PS_ON and IC2001/IC3303.

↓ YES

Are the DC/DC converter outputs and the output voltages along the control lines as specified?	NO →	Check the DC/DC converters and the control lines. Replace defective parts as required.

1) BU3.3V (IC9609 etc.)
2) D5.6V (IC9608 etc.)
3) D5V (IC9603 etc.)
4) U5V (IC9602 etc.)
5) D3.3V (IC9605 etc.)
6) M1.8V (IC9607 etc.)
7) D1.5V (IC9604 etc.)
8) D1.2V (IC1509 etc.)
9) D1.1V (IC9606 etc.)
10)AT5V (IC1104 etc.)
11)IF1.8V (IC1109 etc.)
12)SAT+1.2V (IC1102 etc.)
13)STB+3.3V (Q9607 etc.)
14)SD3.3V (IC8456 etc.)
15)CPU_A+1.2V (IC3301 etc.)
16)CIIN+5V (IC4403 etc.)
17)MT5135+1.1V (IC4401 etc.)

The sound is not emitted from the Speaker

↓

No sound output in all modes?

↓ YES

Do audio signals output from pins [Y30/CPU_AOLRCK, Y31/CPU_AOBCK, V27/CPU_AOSDATA0] of IC3303 (Digital AV decode & Main CPU)? — NO → Check IC3303 and its peripheral circuits.

↓ YES

Do audio signals input to pins [7, 8, 9] of IC2701 (DSP)? — NO → Check the line between IC3303 and IC2701.

↓ YES

Do audio signals output from pins [43/AMP_BCLK, 44/AMP_LRCLK, 45/AMP_DATA_LR, 47/AMP_MCLK] of IC2701? — NO → Check IC2701 and its peripheral circuits.

↓ YES

Do audio signals input to pins [5, 6, 7, 8] of IC2703 (SP_AMP)? — NO → Check the line between IC2701 and IC2703.

↓ YES

Do audio signals output from pins [28/OUTML, 30/OUTPL, 12/OUTPR, 14/OUTMR] of IC2703? — NO → Check IC2703 and its peripheral circuits.

↓ YES

Is AMP_MUTE [pin (21)] of IC2703 at “H”? — NO → Check the line between IC2703 and IC3303 & IC2001 (UCOM). (Q2701,D2701 etc...)

↓ YES

Do audio signals input to pins [1&2/L-ch, 3&4/R-ch] of P2701? — NO → P2701 terminal and the peripheral circuit (L/C filter) are checked.

↓ YES

Check Speaker (right and left) and wire harness.

No sound (during the reception of TV (ANALOG) broadcasting)

↓

Does not the sound go out though the picture has come out when UHF/VHF is received?

↓

In the case of LE835, 838 series, refer to (A).
In the case of LE836 series, refer to (B).

↓ (A)

Does SIF signal output from pin (8) of TUNER (TU1102)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Does SIF signal input to pin [AM24/CPU_ATV_IF+] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between TU1102 and IC3303. (Q1102, etc.)

↓ YES

Refer to “The sound is not emitted from the Speaker & Woofer though the picture has come out.”

↓ (B)

Does SIF signal output from pin (8) of TUNER (TU1104)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Does SIF signal input to pin [AM24/CPU_ATV_IF+] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between TU1104 and IC3303. (Q1102, etc.)

↓ YES

Refer to “The sound is not emitted from the Speaker.”

No sound (during the reception of TV (DIGITAL) broadcasting)

↓

Does not the sound go out though the picture has come out when DTV is received?

↓

In the case of LE835, 838 series, refer to (A).
In the case of LE836 series, refer to (B).

↓ (A)

Do IF signals output to pins [10, 11] of TUNER (TU1102)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Do IF signals input to pins [35/IFPGA_INN, 36/IFPGA_INP] of IC4402 (CI Cont & DTB-T/C Demod)? — NO → Check the line between IC1102 and IC4402.

↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/DEMOD_TS_CLK] of IC4402? — NO → Check IC4402 and its peripheral circuits.

↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between IC4402 and IC3303.

↓ YES

Refer to “The sound is not emitted from the Speaker.”

↓ (B)

Do TS signals output to pins [19/TS_TUOUT_CLK, 17/TS_TUOUT_SYNC, 18/TS_TUOUT_VAL, 20~27/TS_TUOUT_D0~7] of TUNER (TU1104)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Do TS signals input to pins [45/TS_TUOUT_CLK, 46/TS_TUOUT_SYNC, 47/TS_TUOUT_VAL, 48, 51~57/TS_TUOUT_D0~7] of IC4402 (CI Cont & DTB-T/C Demod)? — NO → Check the line between TU1104 and IC4402.

↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/DEMOD_TS_CLK] of IC4402? — NO → Check IC4402 and its peripheral circuits.

↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between IC4402 and IC3303.

↓ YES

Refer to “The sound is not emitted from the Speaker.”

No sound (during the reception of TV (DIGITAL-Satellite) broadcasting)
(DIGITAL-Satellite is only function for LE835, 838 series)

↓

Does not the sound go out though the picture has come out when DTV is received?

↓

Do TS signals output to pins [44/TS_TUOUT_CLK, 46/ TS_TUOUT_SYNC, 45/TS_TUOUT_VAL, 43~36/ TS_TUOUT_D0~7] of TUNER(TU1102)?

NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Do TS signals input to pins [45/S2_TS_CLK, 46/S2_TS_SYNC, 47/S2_TS_VAL, 48,51~57/S2_TS_DATA0~7] of IC4402 (CI Cont & DTB-T/C Demod)?

NO → Check the line between TU1102 and IC4402.

↓ YES

Do TS signals output to pins [15/DEMOD_TS_DATA0, 16/ DEMOD_TS_SYNC, 17/DEMOD_TS_VAL, 18/ DEMOD_TS_CLK] of IC4402?

NO → Check IC4402 and its peripheral circuits.

↓ YES

Do TS signals input to pins [U30/DEMOD_TSDATA0, V30/ DEMOD_TSSYNC, V29/DEMOD_TSVAL, U32/ DEMOD_TSCLK] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between IC4402 and IC3303.

↓ YES

Refer to “The sound is not emitted from the Speaker.”

No sound from external input devices (1)

↓

Does not the sound of the audio signal input to EXT1 go out?

↓

Do audio signals input to pins [2/AUDIO_IN_R, 6/AUDIO_IN_L] of EXT1 (SC505)?

NO → Check the setting of an external input device that connects with EXT1.

↓ YES

Do audio signals input to pins [AM32/SC1_AINR0, AM30/ SC1_AINL0] of IC3303 (Digital AV decode & Main CPU) from SC505?

NO → Check the line between SC505 and IC3303.

↓ YES

Refer to “The sound is not emitted from the Speaker.”

No sound from external input devices (2)

↓

Does not the sound of the audio signal input to EXT2 go out?

↓

- Do audio signals input to pins[2/CVBS1_IN_R, 3/CVBS1_IN_L] of EXT2 (J511)?
- Is CVBS_PLUG [4/CVBS1_PLUG] of J511 at "L"

NO → Check the setting of an external input device that connects with EXT2.

↓ YES

Do audio signals input to pins [AL32/CVBS1_AINR2, AL30/CVBS1_AINL2] of IC3303 (Digital AV decode & Main CPU)?

NO → Check IC3303 and its peripheral circuits.

↓ YES

Refer to "The sound is not emitted from the Speaker."

No sound from external input devices (3)

↓

Does not the sound of the audio signal input to EXT3 go out?

↓

Do audio signals input to pins [7/COMP1_IN_R, 8/COMP1_IN_L] of EXT3 (J511)?

NO → Check the setting of an external input device that connects with EXT3.

↓ YES

Do audio signals input to pins [AK29/COMP1_AINR1, AK27/IFCOMP1_AINL1] of IC3303 (Digital AV decode & Main CPU)?

NO → Check IC3303 and its peripheral circuits.

↓ YES

Refer to "The sound is not emitted from the Speaker."

No sound from external input devices (4)

↓

Does not the sound of the audio signal input to HDMI-2 mode go out?

↓

Check whether it is selected "HDMI + Analog" by the Audio select under Menu-Setup-Option-Terminal setting-Audio select.

↓ YES

Does not the sound of the audio signal input to PC/Component mode go out?

↓

Check whether it is selected "Video + Audio" by the Audio select under Menu-Setup-Option-Terminal setting-Audio select.

↓ YES

Do audio signals input to pins [2/PC/HDMI_L, 3/PC/HDMI_R] of J501 (PC AUDIO_IN)?

↓ NO

Check the setting of an external input device that connects with J501.

↓ YES

Do audio signals input to pins [AM27/PC_HDMI_AINL4, AJ27/PC_HDMI_AINR4] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between J501 and IC3303.

↓ YES

Refer to "The sound is not emitted from the Speaker."

No sound from external input devices (5)

↓

Does not the sound of the audio signal input to HDMI1/2/3/4 go out?

↓

Please Refer to “[External input HDMI-1/2/3/4] No picture on the display (11)”.

No sound from external output device (1)

↓

No audio signal output to EXT1 terminal.

↓

Do audio signals output from pins [1/AUDIO_OUT_R, 3/AUDIO_OUT_L] of EXT1 (SC505)?

YES → Check the setting of an external input device that connects with EXT1.

↓ NO

Is AUDIO_MUTE(MUTE_A_ALL) [23 pin] of IC2001 (UCOM) at “H”?

YES → Check the peripheral circuits of IC2001 and AUDIO_MUTE. (Q502 etc...)

↓ NO

Do audio signals output from pins [1/TUNER_R_OUT, 7/TUNER_L_OUT] of IC2706 (Buffer AMP)?

YES → Check the line between IC2706 and SC505.

↓ NO

Do audio signals input to pins [2, 6] of IC2706?

YES → Check IC2706 and its peripheral circuits.

↓ NO

Do audio signals (TUNER_OUTR/L) output from pins [AG31/TUNER_OUT_R, AG32/TUNER_OUT_L] of IC3303 (Digital AV decode & Main CPU)?

YES → Check between IC3303 and IC2706.

↓ NO

Check IC3303 and its peripheral circuits.

No sound from external output device (2)

No sound from HEAD PHONE_OUTPUT/ AUDIO_OUTPUT terminal.

Does not the sound of the audio signal output to Headphone mode go out?

Check whether it is selected “Headphone” by Headphone/Audio out select under Menu-Setup-Option-Terminal setting-Head-phone/Audio out select.

Does not the sound of the audio signal output to Audio out mode go out?

Check whether it is selected “Audio out” by Headphone/Audio out select under Menu-Setup-Option-Terminal setting-Headphone/ Audio out select.

Do audio signals output from pins [2/MONI_HP_R, 3/MONI_HP_L] of J504 (HP Jack/AUDIO OUT)?
Is HP_PLUG [1 pin] of J504 at “H”?

YES

Check the setting of an external input device that connects with J504.
And check the line between J504 and IC3303 (Digital AV decode & Main CPU).

NO

Is HPOUT_MUTE at “H”?
Is HP_MUTE [AH12] of IC3303 at “H”?
Is AUDIO_MUTE (MUTE_A_ALL) [23 pin] of IC2001 (UCOM) at “H”?

YES → Check the line between J504 and HPOUT_MUTE. (Q506, D2711, IC3303 & IC2001 etc...)

NO

Do audio signals output from pins [2/MONI_HP_L, 11/ MONI_HP_R] of IC2704 (HP-AMP)?

YES → Check the line between IC2704 and J504.

NO

Do audio signals input to pins [1, 12] of IC2704?

YES → Check IC2704 and its peripheral circuits.

NO

Do audio signals (HP_MONITOR_L/R) output from pins [AJ31/ HP_MON_L, AJ32/HP_MON_R] of IC3303?

YES → Check the line between IC3303 and IC2704.

NO

Check IC3303 and its peripheral circuits.

No sound from external output device (3)

↓

No sound from DIGITAL AUDIO OUTPUT terminal.

↓

Does audio signal output from pin [1] of sound output terminal (D527)? — YES → Check D527 and peripheral circuits.

↓ NO

Does audio signal output from pin [4] of IC503? — YES → Check the line between IC503 and D527.

↓ NO

Is AUDIO_MUTE (MUTE_A_ALL) [23 pin] of IC2001 (UCOM) at "H"? — YES → Check the peripheral circuits of IC503 and AUDIO_MUTE. (Q505 etc...)

↓ NO

Does audio signal input to pin [2] of IC503? — YES → Check IC503 and peripheral circuits.

↓ NO

Does audio signal (OPT_OUT) output from pin [AA31/CPU_ASPDIF] of IC3303 (Digital AV decode & Main CPU)? — YES → Check the line between IC3303 and IC503.

↓ NO

Check IC3303 and its peripheral circuits.

No sound from external output device (4)

↓

Does not the sound of the audio signal output to HDMI1 go out?

↓

Does audio signal output from pin [14] of SC1503 (HDMI1 terminal)? — YES → Check SC1503 and peripheral circuits.

↓ NO

Does audio signal output from pin [39/HECP] of IC1504 (HDMI-SW)? — YES → Check the line between IC1504 and SC1503.

↓ NO

Does audio signal input to pin [36/SPDIF_IN] of IC1504? — YES → Check IC1504 and peripheral circuits.

↓ NO

Does audio signal (HDMI_OPT_OUT) output from pin [AA31/CPU_ASPDIF] of IC3303 (Digital AV decode & Main CPU)? — YES → Check the line between IC3303 and IC1504.

↓ NO

Check IC3303 and its peripheral circuits.

No picture on the display (1)

↓

The picture doesn't appear in all modes.

↓

Is the LVDS signal output from IC3303 (DIGITAL_AV_DECODER_&_MAIN_CPU) respectively?
[LVDS0_D0N/P (B15/A15), LVDS0_D1N/P (B16/A16), LVDS0_D2N/P (B17/A17), LVDS0_CLKN/P_74MHz (B18/A18), LVDS0_D3N/P (B19/A19), LVDS0_D4N/P (B20/A20), LVDS1_D0N/P (C15/D15), LVDS1_D1N/P (E15/E16), LVDS1_D2N/P (C17/D17), LVDS1_CLKN/P_74MHz (E17/E18), LVDS1_D3N/P (C19/D19), LVDS1_D4N/P (E19/E20)]

↓ NO → Check IC3303 and its peripheral control circuits. (IC2001, IC3501, IC3502, X3301, etc.)

↓ YES

Do above-mentioned LVDS signals output from connector (P2601)? — NO → Check the line between IC3303 and P2601.

↓ YES

Similarly, is LCD controller's control signal normal? — NO → Please check each control signal of DET_POW (DET_PNL12V), PE (PNL_EN).

↓ YES

LCD Controller Unit:
Do LVDS signals input to connector (LW) of LCD Controller Unit? — NO → Wire harness (LW) is checked.

↓ YES

Check the panel module.

No picture on the display (2)

↓

Does not the picture come out when VHF/UHF is received?

↓

In the case of LE835, 838 series, refer to (A).
In the case of LE836 series, refer to (B).

↓ (A)

Does video signal (IFTU_AIF+/CVBS) output from pin [9] of TUNER (TU1102)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Does video signal (TUNER_CVBS) input to pin [AK24/ CPU_CVBS0P] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between TU1102 and IC3303. (Q1106, etc...)

↓ YES

Refer to “No picture on the display (1)”.

↓ (B)

Does video signal (IFTU_AIF+/CVBS) output from pin [9] of TUNER (TU1104)? — NO → Check the tuner and its peripheral circuits. Replace as required.

↓ YES

Does video signal (TUNER_CVBS) input to pin [AK24/ CPU_CVBS0P] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between TU1104 and IC3303. (Q1106, etc...)

↓ YES

Refer to “No picture on the display (1)”.

No picture on the display (3)

↓

Does not the picture come out when DTV is received?

↓

Refer to “No sound (during the reception of TV (DIGITAL) broadcasting)”.

No picture on the display (4)

↓

Does not the picture come out when DTV (Satellite) is received?

↓

Refer to “No sound (during the reception of TV (DIGITAL-Satellite) broadcasting)”.

[External input EXT1] No picture on the display (5)

↓

Does not the picture of the CVBS signal input to EXT1 go out?

↓

Does CVBS signal input to pin [20] of EXT1 (SC505)? — NO → Check the setting of an external input device that connects with EXT1.

↓ YES

Does CVBS signal input to pin [AK22/CPU_CVBS2P] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between SC505 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input EXT1] No picture on the display (6)

↓

Does not the picture of the Y/C video signal input to EXT1 go out?

↓

Does Y/C video signal input to pins [20/Y, 15/C] of EXT1 (SC505)? — NO → Check the setting of an external input device that connects with EXT1.

↓ YES

Does Y/C signal input to pins [AK22/CPU_CVBS2P, AK19/SC_PR0P] of IC3303 (Digital AV decode & Main CPU)? — NO → Check the line between SC505 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input EXT1] No picture on the display (7)

↓

Does not the picture of the R/G/B signal input to EXT1 go out?

↓

Do RGB signals input to pins [15/RGB_IN_RED/C, 11/ RGB_IN_GREEN and 7/RGB_IN_BLUE] of EXT1 (SC505)?

NO → Check the setting of an external input device that connects with EXT1.

↓ YES

Do RGB signals from EXT1 (SC505) input to pins [AK19/ SC_PR0P, AM19/SC_PB0P and AM18/SC_Y0P] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between SC505 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input EXT2] No picture on the display (8)

↓

Does not the picture of the CVBS signal input to EXT2 go out?

↓

Does CVBS signal input to pin [5] of EXT2 (J511)?
Is CVBS_PLUG [4/CVBS1_PLUG] of J511 at “L”?

NO → Check the setting of an external input device that connects with EXT2.

↓ YES

Does CVBS signal input to pin [AJ23/CPU_CVBS1P] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between J511 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input EXT3] No picture on the display (9)

↓

Does not the picture of the COMPONENT signal input to EXT3 go out?

↓

Do COMPONENT signals input to pins [13/COMP1_Y, 10/COMP1_Pr, 11/COMP1_Pb] of EXT3 (J511)?

NO → Check the setting of an external input device that connects with EXT3.

↓ YES

Do COMPONENT signals input to pins [AM16/COMP_Y1P), (AJ18/COMP_PR1P) and (AK17/COMP_PB1P] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between J511 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input PC] No picture on the display (10)

↓

Does not the picture of the ANALOG-RGB signal input to PC_IN (15pin-D-SUB terminal) go out?

↓

Do ANALOG-RGB and synchronized signal input to pin [(1, 2, 3)/(PC_RED, GREEN, BLUE), (14 and 13)/(PC_VSYNC, H.Sync)] of PC_IN (SC501)?

NO → Check the connection and setup with the external PC_IN devices.

↓ YES

Do ANALOG-RGB and synchronized signal input to pins [AM15/PC_RP, AK15/PC_GP, AK13/PC_BP, and AL13/PC_HSYNC, AM13/PC_VSYNC] of IC3303 (Digital AV decode & Main CPU)?

NO → Check the line between SC501 and IC3303.

↓ YES

Refer to “No picture on the display (1)”.

[External input HDMI-1/2/3/4] No picture on the display (11)

↓

Does not the picture/sound of the HDMI signal input to HDMI-1/2/3/4 go out?

↓

Is the Hot plug detection function output from pin [19] of the HDMI-1 (SC1503) normal?	NO →	Check the line between SC1503 and pin [59] of IC1504 (HDMI-SW).
Is the Hot plug detection function output from pin [19] of the HDMI-2 (SC1502) normal?	NO →	Check the line between SC1502 and pin [74] of IC1504 (HDMI-SW).
Is the Hot plug detection function output from pin [19] of the HDMI-3 (SC1501) normal?	NO →	Check the line between SC1501 and pin [55] of IC1504 (HDMI-SW).
Is the Hot plug detection function output from pin [19] of the HDMI-4 (SC1505) normal?	NO →	Check the line between SC1505 and pin [50] of IC1504 (HDMI-SW).

↓ NO

Check the setting of an external input device that connects with HDMI-1/2/3/4.

↓ YES

Is EDID data pins [58/HDMI1_SCL, 57/HDMI1_SDA] of IC1504 accessed, and is it read from pins [15, 16] of a HDMI-1 (SC1503)?	NO →	Is access possible in the exchange of IC1504?
Is EDID data pins [73/HDMI2_SCL, 72/HDMI2_SDA] of IC1504 accessed, and is it read from pins [15, 16] of a HDMI-2 (SC1502)?		↓ NO
Is EDID data pins [54/HDMI3_SCL, 53/HDMI3_SDA] of IC1504 accessed, and is it read from pins [15, 16] of a HDMI-3 (SC1501)?		Check the peripheral circuit of SC1501/1502/1503/1505 and IC1504.
Is EDID data pins [49/HDMI4_SCL, 48/HDMI4_SDA] of IC1504 accessed, and is it read from pins [15, 16] of a HDMI-4 (SC1505)?		

↓ YES

Do TMDS signals input to pins [26&27/ HDMI1_CLKNP_222.75MHz, 28&29/HDMI1_D0NP, 30&31/ HDMI1_D1NP, 32&33/HDMI1_D2NP] of IC1504?	NO →	Check the line between HDMI-1 (SC1503) and IC1504.
Do TMDS signals input to pins [17&18/ HDMI2_CLKNP_222.75MHz, 19&20/HDMI2_D0NP, 21&22/ HDMI2_D1NP, 23&24/HDMI2_D2NP] of IC1504?	NO →	Check the line between HDMI-2 (SC1502) and IC1504.
Do TMDS signals input to pins [8&9/ HDMI3_CLKNP_222.75MHz, 10&11/HDMI3_D0NP, 12&13/ HDMI3_D1NP, 14&15/HDMI3_D2NP] of IC1504?	NO →	Check the line between HDMI-3 (SC1501) and IC1504.
Do TMDS signals input to pins [99&100/ HDMI4_CLKN_222.75MHz, 1&2/HDMI4_D0NP, 3&4/ HDMI4_D1NP, 5&6/HDMI4_D2NP] of IC1504?	NO →	Check the line between HDMI-4 (SC1505) and IC1504.

↓ YES

Do TMDS signals output from pins [87&86/ SW_TMDS_CLKNP_222.75MHz_, 85&84/SW_TMDS_D0NP_, 83&82/SW_TMDS_D1NP_, 81&80/SW_TMDS_D2NP_] of IC1504 respectively?	NO →	Check the IC1504 and peripheral circuits.

↓ YES

Do TMDS signals input to pins [AM9&AL9/ SW_TMDS_CLKNP_222.75MHz, AM10&AL10/ SW_TMDS_D0NP, AM11&AL11/SW_TMDS_D1NP, AM12&AL12/SW_TMDS_D2NP] of IC3303 (Digital AV decode & Main CPU)?	NO →	Check the line between IC3303 and IC1504.

↓ YES

Refer to “Refer to “No picture on the display (1)” or “The sound is not emitted from the Speaker”

<During external connection> No picture on the monitor

↓

No picture appears on EXT1 connected monitor during the ATV reception.

↓

Does CVBS signal output from pin [19] of EXT1 (SC505)? — YES → Check the setting of an external input device that connects with EXT1.

↓ NO

Does CVBS signal output from pin [5] of IC510? (CAPLESS VIDEO AMP with LPF) — YES → Check the line between SC505 and IC510.

↓ NO

Does CVBS signal input to pin [3] of IC510? — YES → Check the peripheral circuits of IC510.

↓ NO

Does CVBS signal output from pin [2] of IC507? — YES → Check the line between IC507 and IC510.

↓ NO

Is CVBS_OUT_MUTE [pin (1)] of IC507 at “L”? — YES → Check the line between IC3303 and IC507. Check the peripheral circuits of IC3303.

↓ NO

Does CVBS signal input to pin [6] of IC507? — YES → Check the peripheral circuits of IC507.

↓ NO

In the case of LE835, 838 series, refer to (A)?
In the case of LE836 series, refer to (B)?

↓ (A)

Check the line between IC507 and TUNER (TU1102). (Q1106 etc...)

↓ (B)

Check the line between IC507 and TUNER (TU1104). (Q1106 etc...)

<During external connection> No picture on the monitor

↓

No picture appears on EXT1 connected monitor during the DTV reception.

↓

Does CVBS signal output from pin [19] of EXT1 (SC505)? — YES → Check the setting of an external input device that connects with EXT1.

↓ NO

Does CVBS signal output from pin [5] of IC510 (CAPLESS VIDEO AMP with LPF)? — YES → Check the line between SC505 and IC510.

↓ NO

Does CVBS signal input to pin [3] of IC510? — YES → Check the peripheral circuits of IC510.

↓ NO

Does CVBS signal output from pin [2] of IC507? — YES → Check the line between IC507 and IC510.

↓ NO

Is CVBS_OUT_MUTE [pin (1)] of IC507 at “H”? — YES → Check the line between IC3303 and IC507. Check the peripheral circuits of IC3303.

↓ NO

Does CVBS signal input to pin [4] of IC507? — YES → Check the peripheral circuits of IC507.

↓ NO

Does CVBS signal output from pin (AJ20/CPU_VDAC1_OUT) of IC3303 (Digital AV decode & Main CPU)? — YES → Check the line between IC3303 and IC507. Check the peripheral circuits of IC3303.

↓ NO

Refer to “No picture on the display (3) (4)”.

[External input Network] No picture on the display

↓

Does not the signal input to Network go out?

↓

Does the signal in/output to pins (1), (2), (3), (6) of LAN-jack (J9501)? — NO → Check the interface device and peripheral circuits. (power-LED of hub, LINK-LED of hub)

↓ YES

Do signals in/output to pins of IC3303 (Digital AV decode & Main CPU)? Pins [AD32&AD31/CPU_DATMDI_RJ45_TPN, AE32&AE31/CPU_DATMDI_RJ45_RPN] — NO → Check the line between IC3303 and J9501. (T9501 etc...)

↓ YES

Check IC3303 and its peripheral circuits.

No light (Back Light doesn't light)

Is the AC cord connector tightly connected to the set?
NO → Reconnect the AC cord tightly and turn on the power again.

YES

Are the wire harnesses and other cables properly connected in the set?
NO → Reconnect the wire harnesses and other cables properly in the set.

YES

Does Power starts up (central Icon LED lights up)?
NO → Refer to “No power (central Icon LED failure to light up) or no startup (central Icon LED failure is flashing)”.

YES

Is there the pins [10/PNL_POW] of [PD] P9602 at “H”?
NO → Check the power unit, and the signal line between PNL_POW and IC3303 (Digital AV decode & Main CPU).

YES

Is there the pins [2/STB] of [PD] P9602 at “H”?
NO → Check the power unit, and the signal line between STB and IC2001 (UCOM)/IC3303.

YES

Replace the power unit.

LCD Panel failure (1)

Does a single or several vertical stripes appear on the LCD screen?

Does a single or several horizontal stripes appear on the LCD screen?

Do luminescent or black dots appear on the screen?

Is the on-screen image rippling or distorted?

Is there any portion which some screens were darkish or became whitish?

Does all LED of one line are not lighting?

Replace the LCD panel or the power unit.

LCD Panel failure (2)

The backlight functions. Does not the image come out in the LCD screen (screen black)?

Does the entire LCD screen look whitish all over?

Does the QS drive function?

Are the data bit dropout? (No solution even when turning on and off the QS drive)

Is the gamma correction as specified?

Replace the LCD_CONT_UNIT.

[2] LED flashing specification at the time of the error

Display method

- Refer to Table 1.
- LED that can be used are only one of the central icon (Emblem Unit).

  This expresses the error situation by combining blinking at low speed and blinking at high speed.
- For this model, the blinking pattern displayed first is only a low-speed blinking.

  This expresses **a rough content of the error.**
- For this model, details are displayed by a high-speed blinking by pushing remote control MENU key.

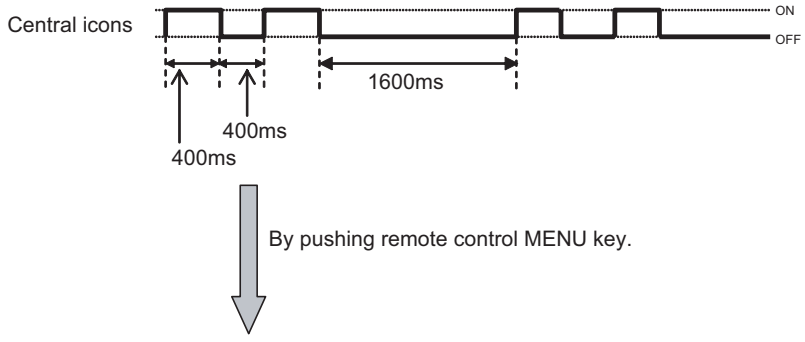
  This expresses **details of the error.**

  Details are distinguished by the blinking frequency.
- It doesn't return to the outline display again (blink at low speed) by pushing the MENU key (The toggle is not done).

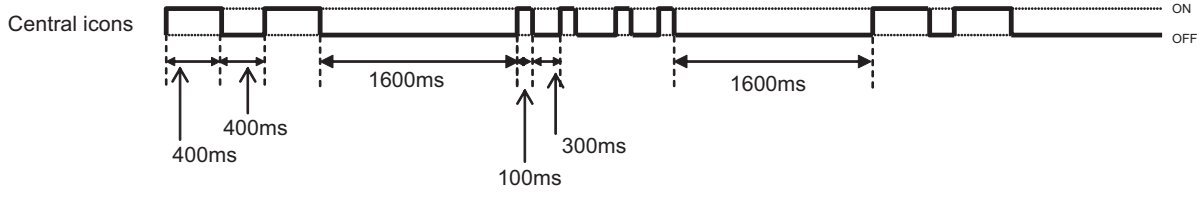
  Please confirm "MONITOR ERR CAUSE" of the adjustment Process mode (1/21 page), when the error doesn't reproduce by having returned from the error.
- The process of the upgrade is expressed by the brightness of point LED that smoothness changes.
- The upgrade completion is expressed by the LED brightness that changes in a staircase pattern.

LED flashing method

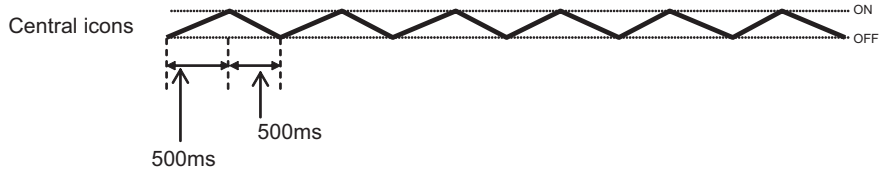
<Examination for a rough content of the error>



<Examination for details of the error>



<Upgrade executing>



<Upgrade completion>

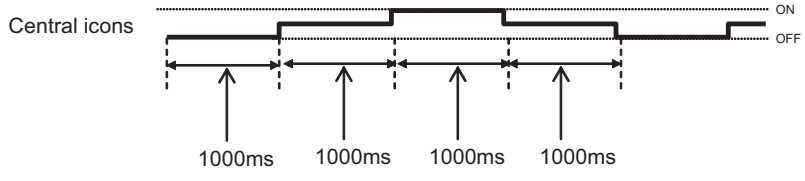


Table 1. Concrete flashing pattern

Item	Expression for a rough content		Expression for Details		Cause
	low-speed blinking	high-speed blinking	low-speed blinking	high-speed blinking	
Lamp system failure	Flashes once	—	Flashes once	Flashes once	Lamp error
Power PWB failure (Power failure, etc.)	Flashes twice	—	Flashes twice	Flashes once	Power Error 1 AC_DET error (*2)
				Flashes twice	Power Error 2 UR+13.5V error (*2)
				Flashes 3 times	Power Error 3 D3.3V error (*2)
				Flashes 5 times	Panel power supply error
Main PWB failure (Communication failure, etc.)	Flashes 3 times	—	Flashes 3 times	Flashes once	Initial communication error
				Flashes twice	Start-up confirmation communication error
				Flashes 3 times	Regular communication error
				Flashes 5 times	Other communication error
Others	Flashes 4 times	—	Flashes 4 times	Flashes once	Temperature error
				Flashes twice	Sync error
				Flashes 3 times	Notification from the main microprocessor (*3)
Upgrade executing	smoothness changes.	—	—	—	Version upgrading
Upgrade completion	a staircase pattern.	—	—	—	Version upgrade succeeded
Upgrade failed	—	Flashing (Continuous)	—	—	Version upgrade failed
ROM data failure	—	Flashing (Continuous)	—	—	Start-up after failing version upgrade (*4)

*2: It depends on the system. The power supply error suitable for the product is defined.

*3: For details, refer to ERROR STANDBY CAUSE on the adjustment process screen.

*4: If the boot section is abnormal, there is no flashing (flashing disabled).

MONITOR ERR STBY table

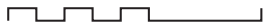
Outline: Communication/Power failure detected by the monitor microprocessor (IC2001) is stored on EEPROM, states can be confirmed in the adjustment process mode.

Location: Page (1/21) of the adjustment process mode: MONITOR ERR CAUSE “0” if there is no error. It is cleared to 0 on the page (2/21) of the adjustment process mode.

Display	Error description	
02	Start-up communication error 2	Initial communication from the main CPU is not received.
03	Start-up communication error 3	Only the initial communication is received.
04	Start-up communication error 4	Until panel information request reception
05	Start-up communication error 5	Until initialization completion reception
06	Start-up communication error 6	Until version notification transmission
07	Start-up communication error 7	Until start-up information notification transmission
08	Start-up communication error 8	Until start-up information response reception
09	Start-up communication error 9	Until time-out setting reception
0A	Communication error A	REQ time-out
0B	Communication error B	Restart time-out during the beginning of time acquisition start-up
0C	Communication error C	Ending sequence time-out
0D	Communication error D	Preset start-up time-out during completion
0E	Communication error E	Download start-up time-out
0F	Communication error F	Time acquisition time-out
11	Communication error H	Regular communication time-out
16	Panel-related error	Lamp failure
1A	Other error 2	Monitor temperature failure
1D	Power supply error 1	PS_ON (AC_DET) failure
1E	Power supply error 2	D_POW (DET_13V) failure
1F	Power supply error 3	D_POW (DET_D3V3) failure
21	Power supply error 5	Panel power failure
23	Other error 3	Error standby request from the main CPU

LED flashing timing chart at the time of the error

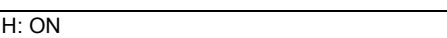
1) Low-speed blinking

Error type	Expression of Central Icon LED	
Lamp failure low-speed blinking Flashes once	H: ON L: OFF	Refer to “Lamp failure details”. LOW/High blinking by pressing the [MENU] key on the remote control.
Power failure low-speed blinking Flashes twice	H: ON L: OFF	Refer to “Power failure details”. LOW/High blinking by pressing the [MENU] key on the remote control.
Communication failure with main CPU low-speed blinking Flashes 3 times	H: ON  L: OFF	Refer to “Communication failure details”. LOW/High blinking by pressing the [MENU] key on the remote control. Communication line failure or main CPU communication failure.
Others low-speed blinking Flashes 4 times	H: ON L: OFF	Refer to “Other failure details”. LOW/High blinking by pressing the [MENU] key on the remote control.

2) Lamp failure details (Low-speed blinking: Flashes once + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
Lamp failure Flashes once (High speed)	H: ON L: OFF	LAMP_ERR (19pin): Abnormal H. Confirmed after 8 consecutive detections at 64ms intervals (detected only when the backlight is on). NOTE: After 5 detection counts, the lamp cannot be activated except in the monitoring process. To confirm the problem, “Lamp Error detection off-mode” is prepared. This mode compulsorily starts the set disregarding the count. Please refer to [7. Lamp Error detection (ADJUSTMENT PROCEDURE)]

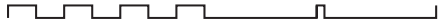
3) Power failure details (Low-speed blinking: Flashes twice + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
PS_ON AC_DET failure Flashes once (High speed)	H: ON L: OFF	AC_DET (28pin): Abnormal (L). If error is detected during start-up or operation, the power is turned on again by interrupt handling (instantaneous blackout processing).
SM_POW Main 13V failure Flashes twice (High speed)	H: ON L: OFF	DET_13V (32pin): Abnormal (L). Main 13V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
D_POW Digital 3.3V failure Flashes 3 times (High speed)	H: ON L: OFF	DET_D3V3 (33pin): abnormal (L). Digital 3.3V is not applied. If error is detected during start-up or operation, the power is turned on again by polling.
PANEL_POW Panel 12V failure Flashes 5 times (High speed)	H: ON  L: OFF	DET_PNL12V (34pin): abnormal (L). DET_PNL12V is not applied. Detection starts after receiving command from Panel Power ON. The power is turned off by polling.

4) Communication failure details (Low-speed blinking: Flashes 3 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Basically, debug print logs are analyzed or communication logs are analyzed by a bus monitor.
Initial communication reception failure Flashes once (High speed)	H: ON L: OFF	Initial communication from the main CPU is not received. (Request for the monitor model No. is not received.) → Communication line failure or main CPU start-up failure.
Start-up confirmation reception failure Flashes twice (High speed)	H: ON L: OFF	Start-up reason confirmation from the main CPU cannot be received. (Startup communication until start-up reason notification command is not received.) → Main CPU start-up failure or monitor microprocessor reception failure.
Regular communication failure Flashes 3 times (High speed)	H: ON L: OFF	Regular communication that is performed at 1 second intervals in the normal operation is interrupted. → Main CPU operation failure or monitor microprocessor reception failure.
Other communication failure Flashes 5 times (High speed)	H: ON L: OFF	When a request (PM_REQ=H) is sent from the main microprocessor, the request command is not output from the main CPU, etc. → Main CPU operation failure or monitor microprocessor reception failure.

5) Other failure details (Low-speed blinking: Flashes 4 times + High-speed blinking)

Error type	Expression of Central Icon LED	Note: Pins are monitor microprocessor pins unless otherwise specified (IC2001).
Monitor temperature failure Flashes once (High speed)	H: ON  L: OFF	If the panel temperature is 60°C or more for 15s or more in a row, CAUTION appears on the OSD (flashes in red in the lower right screen). If the panel temperature is 60°C or more for 25s or more in a row, error standby is activated. (MONITOR MAX TEMP on page (12/21) of the adjustment process: Change AD value for temperature failure): Thermistor
Main failure Flashes 3 times (High speed)	H: ON L: OFF	Main microprocessor detection error (CPU temperature error, etc.) Details are displayed on page (1/21) of the adjustment process for the main microprocessor.

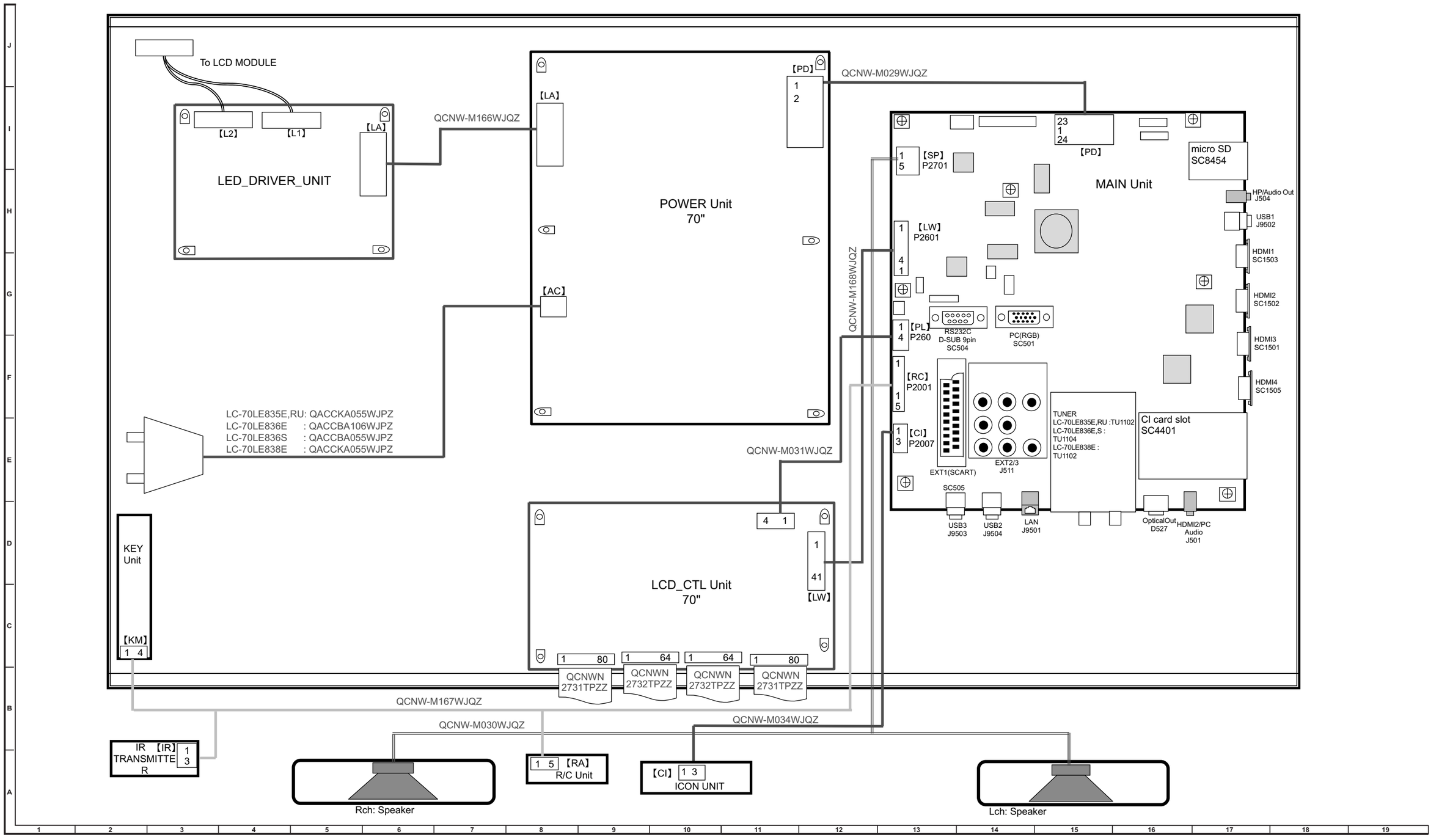
CHAPTER 7. MAJOR IC INFORMATIONS

[1] MAJOR IC INFORMATIONS

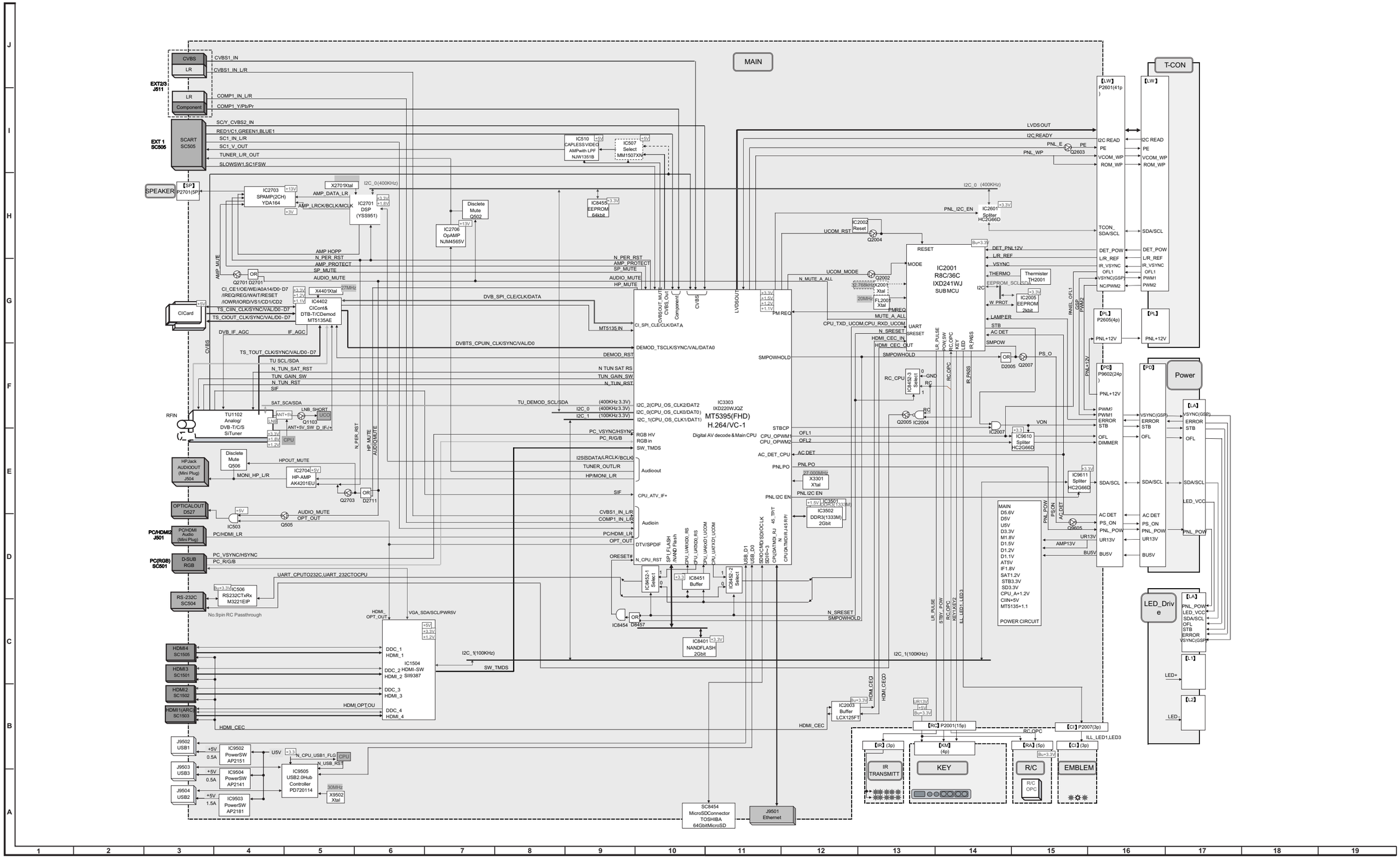
REF NO	Name	Part Code	Description
[MAIN UNIT]			
IC8401	RH-iXD287WJQZQ	Flash	This IC is 2048Mbit NAND flash memory. This IC stores the software data that processes the system of TV such as the graphic processing, the LCD controls, and backlights etc.
IC3303	RH-iXD220WJQZQ	Digital AV decode Main CPU	This IC is Video Processor & MAIN CPU. In this IC, the decode processing and the video signal processing are done. Moreover, OSD is generated here and added to a picture signal.
IC2001	RH-iXD241WJQZQ for service (RH-iXD241WJNJQ)	UCOM	The monitor microprocessor is intended to communicate with the main CPU and to operate the system. It also controls power of the entire system.
IC3501/3502	RH-iXD242WJQZQ	DDR	This IC is 2GB DDR3 SDRAM. This IC operates as a memory of IC3303 (Digital AV decode & Main CPU).
IC8455	VHiBR24S64F-1Y	64K bit E2PROM	The BR24S64 is a 64Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC506	VHiM3221EiP-1Y	RS232C-DRIVER	The MAX3221E is a single driver, single receiver RS-232 solution operating from a single Vcc supply. The RS-232 pins provide IEC G1000-4-2 ESD Protection. The device meets the requirements of TIA/EIA-232-F and provides the electrical interface between an asynchronous communication controller and the serial-port connector. The charge pump and four small external capacitors allow operation from a single 3V to 5.5V supply.
IC4402	VHiMT5135AE-1Q	CI controller DTB-T/C Demodulator	This is a control IC for PCMCIA cards. This controls information on IC cards inserted into the PCMCIA card slot (SC4401) or information on software version upgrade cards saved on flash memories to transfer the data to CPUs and memories.
IC2005	VHiR24002AS-1Y	2K bit E2PROM	This is a 2Kbit-2-wire (I2C bus type) serial EEPROM that can be programmed electrically. This IC stores the menu data and the adjustment value data of adjustment process mode etc. The data is given out by commands from the main microprocessor.
IC1504	VHiSii9387+-1Q	HDMI_Port_Processor	The SiI9387 HDMI port processor is the second generation of HDMI devices that support revision 1.4 of the HDMI specification. The main feature is as follows. 1) 5-input, 1-output HDMI port processor. 2) Audio Return Channel that allows an S/PDIF uplink from HDMI sink device to an HDMI source available in one reciver port. 3) Integrated TMDS receiver and transmitter cores capable of receiving and transmitting at 2.25Gbps. 4) Supports video resolutions up to 1080p, 60Hz, 12bit or 720p/1080i, 120Hz,12bit. 5) Receiver fully comply with DVI1.0, HDCP and several optional 3D formats described in the HDMI1.4 specifications.
IC9505	VHiPD720114-1Q	Ethernet Bus Interface	The IC is a USB 2.0 hub device that complies with the Universal Serial Bus (USB) Specification Revision 2.0 and works up to 480 Mbps. USB 2.0 compliant transceivers are integrated for upstream and all downstream ports. The IC4 works backward compatible either when any one of the downstream ports is connected to a USB 1.1 compliant device, or when the upstream port is connected to a USB 1.1 compliant host.
IC2703	VHiYDA164BZ-1Y	Audio-AMP	This IC is digital audio power amplifier with digital audio interface. The power-supply voltage is corresponded to A.5V~18V and the maximum output is 20Wx2ch.
IC1105 (LC-70LE835E,RU and LC-70LE838E only)	RH-iXC563WJQZY	LNB supply and control	It is IC for amplifying the feeble electric wave sent from satellite broadcasting on the level which can treat a decoder, and changing and processing signal.

CHAPTER 8. OVERALL WIRING/BLOCK DIAGRAM

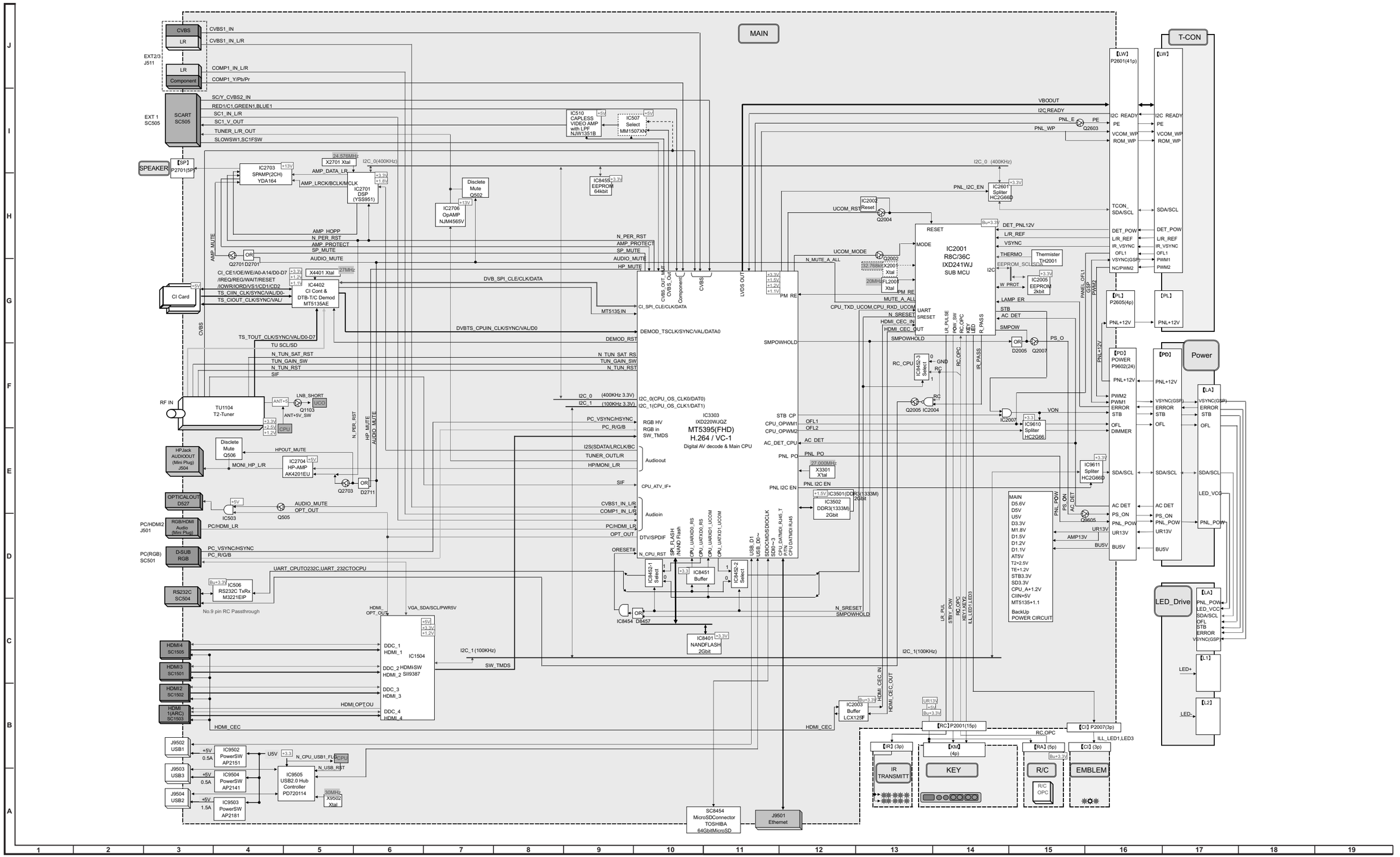
[1] OVERALL WIRING DIAGRAM



[2] SYSTEM BLOCK DIAGRAM (LC-70LE835E/RU, 838E)



[3] SYSTEM BLOCK DIAGRAM (LC-70LE836E/S)



SHARP PARTS GUIDE

No. S12V570LE835E

LCD COLOUR TELEVISION

MODELS LC-70LE835E/RU LC-70LE836E/S LC-70LE838E

CONTENTS

[1] PRINTED WIRING BOARD ASSEMBLIES

[2] LCD PANEL MODULE UNIT

[3] CABINET PARTS

[4] SUPPLIED ACCESSORIES/ PACKING PARTS

[5] SERVICE JIGS (USE FOR SERVICING)

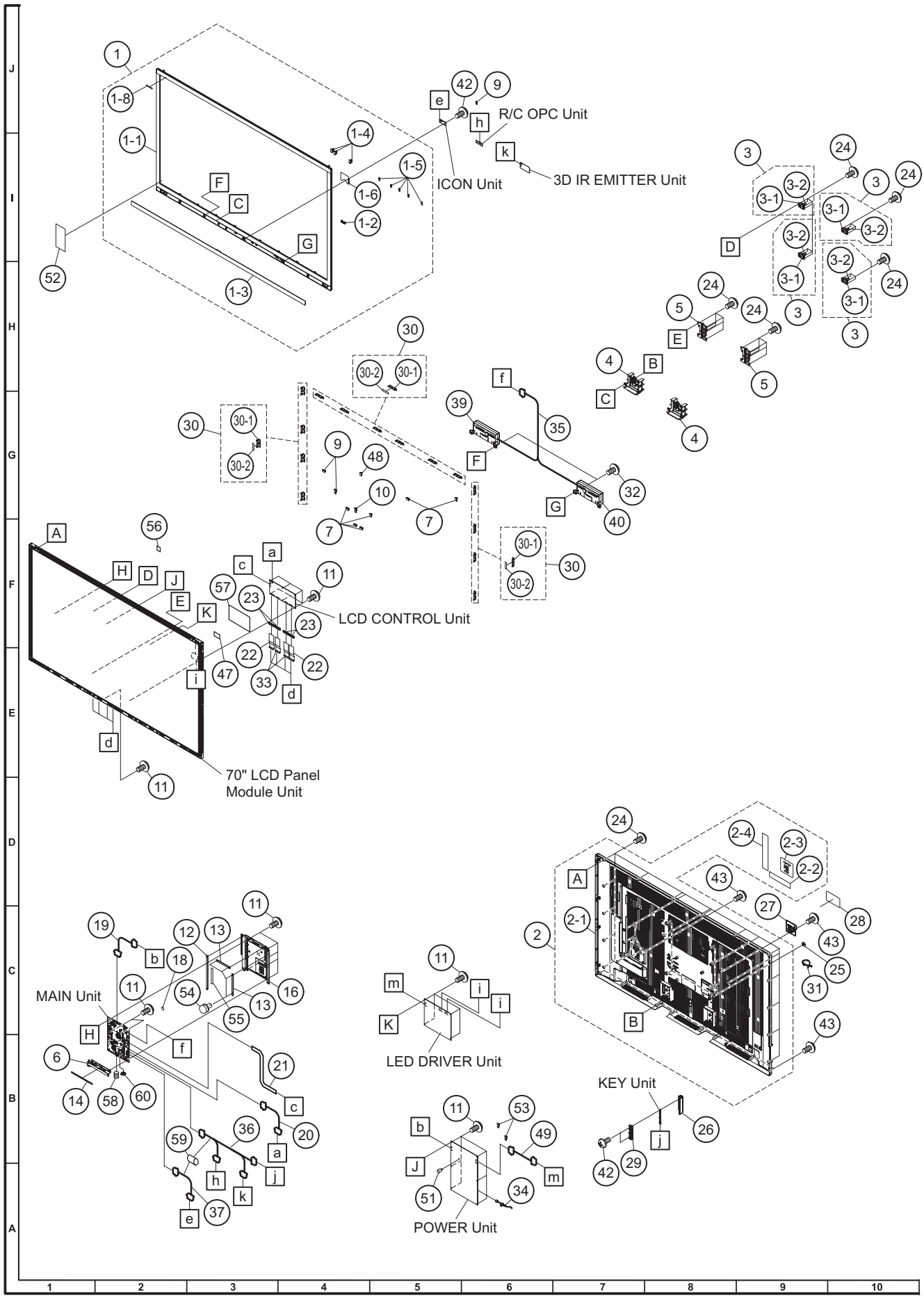
Parts marked with "⚠" are important for maintaining the safety of the set. Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for after sales service only.
The contents are subject to change without notice.

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[1] PRINTED WIRING BOARD ASSEMBLIES					
N	DKEYDF733FM58		N	P	MAIN Unit (LC-70LE835E/RU)
N	DKEYDF733FM59		N	P	MAIN Unit (LC-70LE836E/S)
N	DKEYDF733FM60		N	P	MAIN Unit (LC-70LE838E)
N	DUNTKF494FM02	AP		P	R/C, OPC Unit
N	DUNTKF770FM51	AP		P	ICON Unit
N	DUNTKF800FM52			P	KEY Unit
N	RUNTKA819WJQZ	AU		P	3D IR TRANSMITTER Unit
⚠1 N	RDENCA451WJQZ		N	P	POWER Unit
N	DUNTKF906FM55		N	P	LCD CONTROL Unit
N	RUNTKA961WJZZ		N	P	LED DRIVER Unit
[2] LCD PANEL MODULE UNIT					
N	R1LK695D3GW2AX			P	70" LCD Panel Module Unit (LK695D3GW2AX)

[3] CABINET PARTS

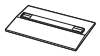


NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[3] CABINET PARTS					
1	CCABAC869WJ11		N	P	Front Cabinet Ass'y
1-1	Not available	–	N	–	Front Cabinet
1-2	GCOVAD966WJ1A			P	R/C OPC Cover
1-3	HDECQB633WJ3A		N	P	Front Decoration
1-4	LHLDWA124WJKZ	AC		J	Wire Holder, x2
1-5	LHLDWA175WJUZ	AC		J	Wire Holder, x3
1-6	PSHEPB131WJKZ			P	Icon Illumi Dif
1-8	TLABZC636WJZZ			P	Quattron Label
2	CCABBC049WJ11		N	P	Rear Cabinet Ass'y (LC-835E/RU,838E)
2	CCABBC049WJ12		N	P	Rear Cabinet Ass'y (LC-70LE836E/S)
2-1	Not available	–	N	–	Rear Cabinet
2-2	HiNDPE032WJSB			P	Terminal Indicator (Bottom) (LC-835E/RU,838E)
2-2	HiNDPE122WJSB			P	Terminal Indicator (Bottom) (LC-70LE836E/S)
2-3	HiNDPE035WJSB			P	Terminal Indicator (Back)
2-4	HiNDPE117WJSB			P	Terminal Indicator (Side)
3	CANGKD289WJ31		N	P	VESA Angle Ass'y, x4
3-1	Not available	–	N	–	VESA Angle
3-2	NSFTZA460WJFN	BC	N	J	VESA Shaft
4	GCOVAE164WJ3A		N	P	Bottom Cover, x2
5	LANGKD290WJ3W		N	P	Stand Angle, x2
6	LANGKD148WJFW			P	Terminal Angle (Bottom) (LC-835E/RU,838E)
6	LANGKD192WJFW			P	Terminal Angle (Bottom) (LC-70LE836E/S)
7	LHLDWA124WJKZ	AC		J	Wire Holder, x6
9	LHLDWA175WJUZ	AC		J	Wire Holder, x3
10	LHLDWA176WJUZ	AC		J	Wire Holder
11	LX-BZA207WJF7	AA		J	Screw, x23 (PWB)
12	PMLT-A694WJZZ		N	P	Gasket
13	PMLT-A693WJZZ		N	P	Gasket, x2
14	PMLT-A695WJZZ		N	P	Gasket
16	PSLDMB751WJFW			P	Shield (MAIN Unit)
18	PSPAGA963WJZZ			P	Spacer
19	QCNW-M029WJQZ	AR	N	J	Connecting Cord (PD)
20	QCNW-M031WJQZ	AG	N	J	Connecting Cord (PL)
21	QCNW-M168WJQZ		N	P	Connecting Cord (LW)
22	QCNWN2731TPZZ	AF	N	J	FFC (80pin), x2
23	RCORFA061WJZZ	AG		J	Ferrite Core, x4
24	XBPS830P06WS0	AA		J	Screw, x49
25	GCOVAC576WJKZ	AC	N	J	VESA Hole Cover, x4
26	GCOVAE162WJ3A		N	P	Key Button Cover
27	GCOVAE163WJ3A		N	P	AC Cord Cover
28	TLABNC117WJZZ			P	Model Label
29	JBTN-A912WJ3A		N	P	Key Button
30	CANGKD291WJ31		N	P	Fixing Metal Angle Ass'y, x14
30-1	LANGKD291WJ3W		N	P	Fixing Metal Angle
30-2	PSPAHC469WJZZ		N	P	Spacer
31	LHLDWA303WJKA	AE		J	Cable Clamp
32	LX-EZA069WJF7	AB		J	Screw, x2
33	QCNWN2732TPZZ	AF	N	J	FFC (64pin), x2
⚠ 34	QACCKA055WJPZ	AQ		J	AC Cord (LC-835E/RU,836S,838E)
⚠ 34	QACCBA106WJPZ	AS		J	AC Cord (LC-836E)
35	QCNW-M030WJQZ	AL	N	J	Connecting Cord (SP)
36	QCNW-M167WJQZ		N	P	Connecting Cord (RC)
37	QCNW-M034WJQZ		N	P	Connecting Cord (CI)
39	RSP-ZA538WJQZ	AU		J	Speaker (L)
40	RSP-ZA539WJQZ	AU		J	Speaker (R)
42	XEBS830P08000	AA		J	Screw, x3
43	XEBS830P12000	AA		J	Screw, x10
47	PSPAZC782WJKZ		N	P	Spacer (C-PWB Cooler)
48	LHLDWA151WJKZ	AB		J	Wire Holder
49	QCNW-M166WJQZ		N	P	Connecting Cord (LA)
51	PSPANA044WJKZ	AB		J	PWB Spacer
52	TLABZD106WJZZ		N	P	ENERGY Label (LC-835E,836E/S,838E)
53	LHLDWA282WJKZ	AC		J	Wire Holder, x2
54	PCLiCA004WJKZ	AC		J	For Gasket, x4
55	PMLT-A676WJZZ			P	Gasket
56	PSPAZC850WJKZ		N	P	MAIN Cooler (Cooling Sheet)
57	PZETKA687WJKZ		N	P	FFC Insulation
58	QEARZ0057CEFW	AB		J	GROUND-PART (Earth Spring)
59	RCORF0103CEZZ	AK		J	Spring
60	LX-NZA049WJFN	AC		J	Screw/Hexagon (LC-835E/RU,838E)

[4] SUPPLIED ACCESSORIES/PACKING PARTS

X1
Stand support Ass'y (x2)

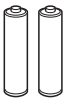
X2
Stand Base Ass'y (x1)



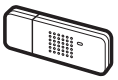
X3
Stand Screw Ass'y (x1)

X5
Remote control unit (x 1)

X10
LR03 ("AAA" size alkaline) battery (x 2)

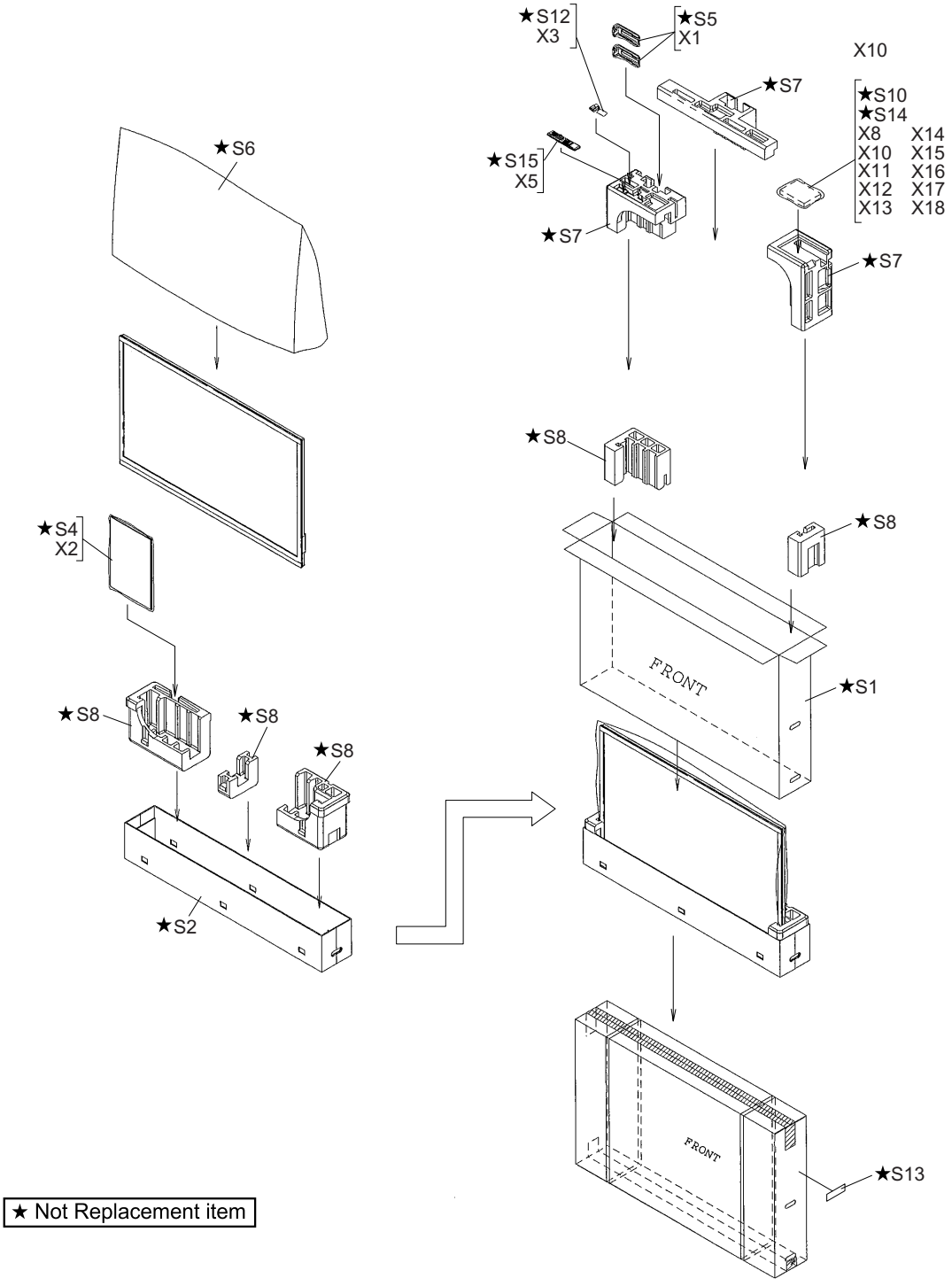


X13
Wireless LAN USB adapter
(WN8522D 7-JU) (x 1)



X15 Wi-Fi Sheet
X16 Important safety precautions
X17 Gost Sheet
X18 USB memory (operation manual)

X8 Initial setup guide
X11 Guarantee Sheet
X12 Guarantee/AQUOS
X14 WEEE Sheet



★ Not Replacement item

NO.	PARTS CODE	PRICE RANK	NEW MARK	PART DELIVERY	DESCRIPTION
[4] SUPPLIED ACCESSORIES/PACKING PARTS					
X1	CANGKD276WJ05			P	Stand Support Ass'y, x2
X2	CDAi-A778WJ22			P	Stand Base Ass'y
X3	CSAKKA011WJ03			P	Stand Screw Ass'y
X5	RRMCGA902WJSA			P	Remote Control Unit (LC-70LE835/836)
X5	RRMCGA959WJSA			P	Remote Control Unit (LC-70LE838E)
X8	TiNS-F410WJZZ		N	P	Initial Set Up Guide
X10	Not available	–		–	LR03 ("AAA" size alkaline) battery
X11	TGAN-A801WJN1			P	Guarantee Sheet (LC-836E)
X11	TGAN-B651WJZZ			P	Guarantee Sheet (LC-835RU)
X12	TGAN-A802WJN1			P	Guarantee/AQUOS (LC-836E)
X13	Ki-OUA003WJQZ			P	Wireless LAN USB adapter
X14	TCAUZA446WJZZ			P	WEEE Sheet (LC-835E,836E/S,838E)
X15	TCAUZA458WJN1			P	Wi-Fi Sheet
X16	TCAUZA477WJZZ			P	Important Safety Precautions
X17	TCAUZA490WJZZ		N	P	Gost Sheet (LC-835RU)
X18	UiMCUA008WJQZ2		N	P	USB Memory (Operation Manual)
S1	SPAKCG594WJZZ	–	N	–	Packing Case (LC-60LE630U/U(A)) (NOT REPLACEMENT ITEM)
S2	SPAKCG595WJZZ	–	N	–	Packing Case (Bottom) (NOT REPLACEMENT ITEM)
S4	SPAKPB722WJ2Z	–		–	Wrapping Paper (NOT REPLACEMENT ITEM)
S5	SPAKPB723WJ2Z	–		–	Wrapping Paper (Support) (NOT REPLACEMENT ITEM)
S6	SPAKPB819WJZZ	–	N	–	Packing Add. (Top) (NOT REPLACEMENT ITEM)
S7	SPAKXD539WJZZ	–	N	–	Packing Add. (Bottom) (NOT REPLACEMENT ITEM)
S8	SPAKXD540WJZZ	–	N	–	Polyethylene Bag (NOT REPLACEMENT ITEM)
S10	SSAKAA111WJZZ	–		–	Case No. Label (NOT REPLACEMENT ITEM)
S12	SSAKKA011WJ2Z	–		–	Polyethylene Bag (NOT REPLACEMENT ITEM)
S13	TLABM5584BMZZ	–		–	Case No. Label (NOT REPLACEMENT ITEM)
S14	TLABZC826WJZZ	–		–	Bar Code Label (NOT REPLACEMENT ITEM)
S15	TLABK0023TAZZ	–		–	Label For R/C (LC-70LE835/836) (NOT REPLACEMENT ITEM)
[5] SERVICE JIGS (USE FOR SERVICING)					
N	QCNW-L795WJQZ	BC		J	Connecting Cord L=1000mm 24pins, MAIN Unit to POWER Unit (PD)
N	QCNW-L519WJQZ	BA		J	Connecting Cord L=1000mm 18pins, POWER Unit to LED DRIVER Unit (LA)
N	QCNW-L796WJQZ	AM		J	Connecting Cord L=1000mm 3pins, MAIN Unit to ICON Unit (CI)
N	QCNW-K595WJQZ	AP		J	Connecting Cord L=1060mm 5-2/2pins, MAIN Unit to Speaker (SP)
N	QCNW-G405WJQZ	AP		J	Connecting Cord L=1000mm 4pins, MAIN Unit to LCD Control Unit (PL)
N	QCNW-F676WJQZ	BH		J	Connecting Cord L=1000mm 41pins, MAIN Unit to LCD CONTROL Unit (LW)
N	QCNW-C222WJQZ	AW		J	Connecting Cord L=1000mm 80pins, LCD Control Unit to LCD Panel Unit, x2

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